SEQUENCE LISTING

<110> Lees, Ann M.
      Lees, Robert S.
      Law, Simon W.
      Arjona, Anibal A.

<120> NOVEL LOW DENSITY LIPOPROTEIN BINDING
      PROTEINS AND THEIR USE IN DIAGNOSING AND TREATING
      ATHEROSCLEROSIS

<130> 10797-004001

<140> US 09/616,289
<141> 2000-07-14

<150> US 09/517,849
<151> 2000-03-02

<150> US 08/979,608
<151> 1997-11-26

<150> US 60/031,930
<151> 1996-11-27

<150> US 60/048,547
<151> 1997-06-03

<160> 53

<170> FastSEQ for Windows Version 4.0

<210> 1
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<212> PRT
<213> Oryctolagus cuniculus

<400> 1
Met Ser Lys Asn Thr Val Ser Ser Ala Arg Phe Arg Lys Val Asp Val
1   5   10   15
Asp Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp Gly Gly Asp
            20   25   30
Gly Gln Ala Gly Pro Asp Glu Gly Glu Val Asp Ser Cys Leu Arg Gln
        35   40   45
Gly Asn Met Thr Ala Ala Leu Gln Ala Ala Leu Lys Asn Pro Pro Ile
        50   55   60
Asn Thr Arg Ser Gln Ala Val Lys Asp Arg Ala Gly Ser Ile Val Leu
65   70   75   80
Lys Val Leu Ile Ser Phe Lys Ala Gly Asp Ile Glu Lys Ala Val Gln
                85   90   95
Ser Leu Asp Arg Asn Gly Val Asp Leu Leu Met Lys Tyr Ile Tyr Lys
            100   105   110
Gly Phe Glu Ser Pro Ser Asp Asn Ser Ser Ala Val Leu Leu Gln Trp
            115   120   125
His Glu Lys Ala Leu Ala Ala Gly Gly Val Gly Ser Ile Val Arg Val
            130   135   140

```
Leu Thr Ala Arg Lys Thr Val
145                 150
```

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<210> 2
<211> 317
<212> PRT
<213> Oryctolagus cuniculus

<220>
<221> VARIANT
<222> (1)...(317)
<223> Xaa = Any Amino Acid
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<400> 2
Asp Cys Arg Ser Ser Ser Asn Asn Arg Xaa Pro Lys Gly Gly Ala Ala
1               5                   10              15
Arg Ala Gly Gly Pro Ala Arg Pro Val Ser Leu Arg Glu Val Val Arg
            20                  25              30
Tyr Leu Gly Gly Ser Ser Gly Ala Gly Gly Arg Leu Thr Arg Gly Arg
        35              40                  45
Val Gln Gly Leu Leu Glu Glu Glu Ala Ala Ala Arg Gly Arg Leu Glu
    50              55                  60
Arg Thr Arg Leu Gly Ala Leu Ala Leu Pro Arg Gly Asp Arg Pro Gly
65              70                  75                      80
Arg Ala Pro Pro Ala Ala Ser Ala Arg Ala Ala Arg Asn Lys Arg Ala
            85                  90                  95
Gly Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Glu Glu Glu Glu Glu
            100             105                 110
Asp Asp Glu Asp Asp Asp Asp Asp Val Val Ser Glu Gly Ser Glu Val
        115                 120                 125
Pro Glu Ser Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly
    130                 135                 140
Gly Glu Arg Gly Pro Gln Thr Ala Lys Glu Arg Ala Lys Glu Trp Ser
145                 150                 155                 160
Leu Cys Gly Pro His Pro Gly Gln Glu Glu Gly Arg Gly Pro Ala Ala
                165             170                 175
Gly Ser Gly Thr Arg Gln Val Phe Ser Met Ala Ala Leu Ser Lys Glu
            180             185                 190
Gly Gly Ser Ala Ser Ser Thr Thr Gly Pro Asp Ser Pro Ser Pro Val
            195             200                 205
Pro Leu Pro Pro Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro
    210             215                 220
Phe Gly Cys Pro Ala Gly Arg Lys Glu Lys Pro Ala Asp Pro Val Glu
225             230                 235                 240
Trp Thr Val Met Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro
            245                 250                 255
Glu Gln Ala Thr Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu
            260                 265                 270
Leu Leu Met Gln Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu
        275                 280                 285
Gly Pro Ala Leu Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln
        290             295                 300
Gly His Phe Glu Asp Asp Asp Pro Glu Gly Phe Leu Gly
305             310                 315
```

```
<210> 3
<211> 232
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<212> PRT
<213> Oryctolagus cuniculus

<400> 3
Ala Ser Ala Arg Ala Ala Arg Asn Lys Arg Ala Gly Glu Glu Arg Val
1   5   10   15
Leu Glu Lys Glu Glu Glu Glu Glu Glu Glu Glu Asp Asp Glu Asp Asp
            20   25   30
Asp Asp Asp Val Val Ser Glu Gly Ser Glu Val Pro Glu Ser Asp Arg
        35   40   45
Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Gly Glu Arg Gly Pro
    50   55   60
Gln Thr Ala Lys Glu Arg Ala Lys Glu Trp Ser Leu Cys Gly Pro His
65   70   75   80
Pro Gly Gln Glu Glu Gly Arg Gly Pro Ala Ala Gly Ser Gly Thr Arg
                85   90   95
Gln Val Phe Ser Met Ala Ala Leu Ser Lys Glu Gly Gly Ser Ala Ser
            100   105   110
Ser Thr Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro Pro Gly
        115   120   125
Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys Pro Ala
    130   135   140
Gly Arg Lys Glu Lys Pro Ala Asp Pro Val Glu Trp Thr Val Met Asp
145   150   155   160
Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala Thr Ala
                165   170   175
Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met Gln Arg
            180   185   190
Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala Leu Lys
            195   200   205
Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly His Phe Glu Asp
    210   215   220
Asp Asp Pro Glu Gly Phe Leu Gly
225   230

<210> 4
<211> 252
<212> PRT
<213> Oryctolagus cuniculus

<400> 4
Thr Arg Leu Gly Ala Leu Ala Leu Pro Arg Gly Asp Arg Pro Gly Arg
1   5   10   15
Ala Pro Pro Ala Ala Ser Ala Arg Ala Ala Arg Asn Lys Arg Ala Gly
            20   25   30
Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Glu Glu Glu Glu Glu Asp
        35   40   45
Asp Glu Asp Asp Asp Asp Asp Val Val Ser Glu Gly Ser Glu Val Pro
    50   55   60
Glu Ser Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Gly
65   70   75   80
Glu Arg Gly Pro Gln Thr Ala Lys Glu Arg Ala Lys Glu Trp Ser Leu
                85   90   95
Cys Gly Pro His Pro Gly Gln Glu Glu Gly Arg Gly Pro Ala Ala Gly
            100   105   110
Ser Gly Thr Arg Gln Val Phe Ser Met Ala Ala Leu Ser Lys Glu Gly
        115   120   125

```
Gly Ser Ala Ser Ser Thr Thr Gly Pro Asp Ser Pro Ser Pro Val Pro
    130                 135                 140
Leu Pro Pro Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe
145                 150                 155                 160
Gly Cys Pro Ala Gly Arg Lys Glu Lys Pro Ala Asp Pro Val Glu Trp
                165                 170                 175
Thr Val Met Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu
                180                 185                 190
Gln Ala Thr Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu
            195                 200                 205
Leu Met Gln Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly
        210                 215                 220
Pro Ala Leu Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly
225                 230                 235                 240
His Phe Glu Asp Asp Asp Pro Glu Gly Phe Leu Gly
                245                 250
```

```
<210> 5
<211> 557
<212> PRT
<213> Oryctolagus cuniculus
```

```
<400> 5
Met Lys Asn Gln Asp Lys Lys Asn Gly Ala Ala Lys Gln Pro Asn Pro
1               5               10                  15
Lys Ser Ser Pro Gly Gln Pro Glu Ala Gly Ala Glu Gly Ala Gln Gly
                20              25                  30
Arg Pro Gly Arg Pro Ala Pro Ala Arg Glu Ala Glu Gly Ala Ser Ser
            35                  40                  45
Gln Ala Pro Gly Arg Pro Glu Gly Ala Gln Ala Lys Thr Ala Gln Pro
        50                  55                  60
Gly Ala Leu Cys Asp Val Ser Glu Glu Leu Ser Arg Gln Leu Glu Asp
65                  70                  75                  80
Ile Leu Ser Thr Tyr Cys Val Asp Asn Asn Gln Gly Ala Pro Gly Glu
                85                  90                  95
Asp Gly Val Gln Gly Glu Pro Pro Glu Pro Glu Asp Ala Glu Lys Ser
                100                 105                 110
Arg Ala Tyr Val Ala Arg Asn Gly Glu Pro Glu Pro Gly Thr Pro Val
            115                 120                 125
Val Asn Gly Glu Lys Glu Thr Ser Lys Ala Glu Pro Gly Thr Glu Glu
        130                 135                 140
Ile Arg Thr Ser Asp Glu Val Gly Asp Arg Asp His Arg Arg Pro Gln
145                 150                 155                 160
Glu Lys Lys Lys Ala Lys Gly Leu Gly Lys Glu Ile Thr Leu Leu Met
                165                 170                 175
Gln Thr Leu Asn Thr Leu Ser Thr Pro Glu Glu Lys Leu Ala Ala Leu
            180                 185                 190
Cys Lys Lys Tyr Ala Glu Leu Leu Glu Glu His Arg Asn Ser Gln Lys
            195                 200                 205
Gln Met Lys Leu Leu Gln Lys Lys Gln Ser Gln Leu Val Gln Glu Lys
        210                 215                 220
Asp His Leu Arg Gly Glu His Ser Lys Ala Ile Leu Ala Arg Ser Lys
225                 230                 235                 240
Leu Glu Ser Leu Cys Arg Glu Leu Gln Arg His Asn Arg Ser Leu Lys
                245                 250                 255
Glu Glu Gly Val Gln Arg Ala Arg Glu Glu Glu Lys Arg Lys Glu
            260                 265                 270
```

```
Val Thr Ser His Phe Gln Met Thr Leu Asn Asp Ile Gln Leu Gln Met
        275                 280             285
Glu Gln His Asn Glu Arg Asn Ser Lys Leu Arg Gln Glu Asn Met Glu
    290                 295                 300
Leu Ala Glu Arg Leu Lys Lys Leu Ile Glu Gln Tyr Glu Leu Arg Glu
305                 310                 315                 320
Glu His Ile Asp Lys Val Phe Lys His Lys Asp Leu Gln Gln Gln Leu
            325                 330                 335
Val Asp Ala Lys Leu Gln Gln Ala Gln Glu Met Leu Lys Glu Ala Glu
            340                 345                 350
Glu Arg His Gln Arg Glu Lys Asp Phe Leu Leu Lys Glu Ala Val Glu
        355                 360                 365
Ser Gln Arg Met Cys Glu Leu Met Lys Gln Gln Glu Thr His Leu Lys
    370                 375                 380
Gln Gln Leu Ala Leu Tyr Thr Glu Lys Phe Glu Glu Phe Gln Asn Thr
385                 390                 395                 400
Leu Ser Lys Ser Ser Glu Val Phe Thr Thr Phe Lys Gln Glu Met Glu
            405                 410                 415
Lys Met Thr Lys Lys Ile Lys Lys Leu Glu Lys Glu Thr Thr Met Tyr
            420                 425                 430
Arg Ser Arg Trp Glu Ser Ser Asn Lys Ala Leu Leu Glu Met Ala Glu
    435                 440                 445
Glu Lys Thr Leu Arg Asp Lys Glu Leu Glu Gly Leu Gln Val Lys Ile
    450                 455                 460
Gln Arg Leu Glu Lys Leu Cys Arg Ala Leu Gln Thr Glu Arg Asn Asp
465                 470                 475                 480
Leu Asn Lys Arg Val Gln Asp Leu Ser Ala Gly Gly Gln Gly Pro Val
            485                 490                 495
Ser Asp Ser Gly Pro Glu Arg Arg Pro Glu Pro Ala Thr Thr Ser Lys
            500                 505                 510
Glu Gln Gly Val Glu Gly Pro Gly Ala Gln Val Pro Asn Ser Pro Arg
            515                 520                 525
Ala Thr Asp Ala Ser Cys Cys Ala Gly Ala Pro Ser Thr Glu Ala Ser
    530                 535                 540
Gly Gln Thr Gly Pro Gln Glu Pro Thr Thr Ala Thr Ala
545                 550                 555
```

```
<210> 6
<211> 151
<212> PRT
<213> Homo sapiens
```

```
<400> 6
Met Ser Lys Asn Thr Val Ser Ser Ala Arg Phe Arg Lys Val Asp Val
  1               5                 10                  15
Asp Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp Gly Gly Asp
            20                  25                  30
Gly Gln Ala Gly Pro Asp Glu Gly Glu Val Asp Ser Cys Leu Arg Gln
        35                  40                  45
Gly Asn Met Thr Ala Ala Leu Gln Ala Ala Leu Lys Asn Pro Pro Ile
    50                  55                  60
Asn Thr Lys Ser Gln Ala Val Lys Asp Arg Ala Gly Ser Ile Val Leu
65                  70                  75                  80
Lys Val Leu Ile Ser Phe Lys Ala Asn Asp Ile Glu Lys Ala Val Gln
            85                  90                  95
Ser Leu Asp Lys Asn Gly Val Asp Leu Leu Met Lys Tyr Ile Tyr Lys
            100                 105                 110
```

```
Gly Phe Glu Ser Pro Ser Asp Asn Ser Ser Ala Met Leu Leu Gln Trp
        115             120             125
His Glu Lys Ala Leu Ala Ala Gly Gly Val Gly Ser Ile Val Arg Val
    130             135             140
Leu Thr Ala Arg Lys Thr Val
145             150
```

<210> 7
<211> 217
<212> PRT
<213> Homo sapiens

<400> 7
```
Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Glu Asp Asp Asp Glu Asp
  1           5               10              15
Glu Asp Glu Glu Asp Asp Val Ser Glu Gly Ser Glu Val Pro Glu Ser
            20              25              30
Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Glu Arg Gly
        35              40              45
Pro Gln Ser Ala Lys Glu Arg Val Lys Glu Trp Thr Pro Cys Gly Pro
    50              55              60
His Gln Gly Gln Asp Glu Gly Arg Gly Pro Ala Pro Gly Ser Gly Thr
65              70              75              80
Arg Gln Val Phe Ser Met Ala Ala Met Asn Lys Glu Gly Gly Thr Ala
                85              90              95
Ser Val Ala Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro Pro
            100             105             110
Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys Pro
        115             120             125
Pro Gly Arg Lys Glu Lys Pro Ser Asp Pro Val Glu Trp Thr Val Met
    130             135             140
Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala Thr
145             150             155             160
Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met Gln
                165             170             175
Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala Leu
            180             185             190
Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly His Phe Glu
        195             200             205
Asp Asp Asp Pro Asp Gly Phe Leu Gly
    210             215
```

<210> 8
<211> 530
<212> PRT
<213> Homo sapiens

<400> 8
```
Lys Ser Ser Pro Gly Gln Pro Glu Ala Gly Pro Glu Gly Ala Gln Glu
  1           5               10              15
Arg Pro Ser Gln Ala Ala Pro Ala Val Glu Ala Glu Gly Pro Gly Ser
            20              25              30
Ser Gln Ala Pro Arg Lys Pro Glu Gly Ala Gln Ala Arg Thr Ala Gln
        35              40              45
Ser Gly Ala Leu Arg Asp Val Ser Glu Glu Leu Ser Arg Gln Leu Glu
    50              55              60
Asp Ile Leu Ser Thr Tyr Cys Val Asp Asn Asn Gln Gly Gly Pro Gly
```

```
65                      70                      75                      80
Glu Asp Gly Ala Gln Gly Glu Pro Ala Glu Pro Glu Asp Ala Glu Lys
                85                      90                      95
Ser Arg Thr Tyr Val Ala Arg Asn Gly Glu Pro Glu Pro Thr Pro Val
               100                     105                     110
Val Tyr Gly Glu Lys Glu Pro Ser Lys Gly Asp Pro Asn Thr Glu Glu
               115                     120                     125
Ile Arg Gln Ser Asp Glu Val Gly Asp Arg Asp His Arg Arg Pro Gln
           130                     135                     140
Glu Lys Lys Lys Ala Lys Gly Leu Gly Lys Glu Ile Thr Leu Leu Met
145                     150                     155                     160
Gln Thr Leu Asn Thr Leu Ser Thr Pro Glu Glu Lys Leu Ala Ala Leu
                   165                     170                     175
Cys Lys Lys Tyr Ala Glu Leu Leu Glu Glu His Arg Asn Ser Gln Lys
               180                     185                     190
Gln Met Lys Leu Leu Gln Lys Lys Gln Ser Gln Leu Val Gln Glu Lys
               195                     200                     205
Asp His Leu Arg Gly Glu His Ser Lys Ala Val Leu Ala Arg Ser Lys
   210                     215                     220
Leu Glu Ser Leu Cys Arg Glu Leu Gln Arg His Asn Arg Ser Leu Lys
225                     230                     235                     240
Glu Glu Gly Val Gln Arg Ala Arg Glu Glu Glu Lys Arg Lys Glu
               245                     250                     255
Val Thr Ser His Phe Gln Val Thr Leu Asn Asp Ile Gln Leu Gln Met
               260                     265                     270
Glu Gln His Asn Glu Arg Asn Ser Lys Leu Arg Gln Glu Asn Met Glu
               275                     280                     285
Leu Ala Glu Arg Leu Lys Lys Leu Ile Glu Gln Tyr Glu Leu Arg Glu
           290                     295                     300
Glu His Ile Asp Lys Val Phe Lys His Lys Asp Leu Gln Gln Gln Leu
305                     310                     315                     320
Val Asp Ala Lys Leu Gln Gln Ala Gln Glu Met Leu Lys Glu Ala Glu
               325                     330                     335
Glu Arg His Gln Arg Glu Lys Asp Phe Leu Leu Lys Glu Ala Val Glu
           340                     345                     350
Ser Gln Arg Met Cys Glu Leu Met Lys Gln Gln Glu Thr His Leu Lys
       355                     360                     365
Gln Gln Leu Ala Leu Tyr Thr Glu Lys Phe Glu Glu Phe Gln Asn Thr
   370                     375                     380
Leu Ser Lys Ser Ser Glu Val Phe Thr Thr Phe Lys Gln Glu Met Glu
385                     390                     395                     400
Lys Met Thr Lys Lys Ile Lys Lys Leu Glu Lys Glu Thr Thr Met Tyr
               405                     410                     415
Arg Ser Arg Trp Glu Ser Ser Asn Lys Ala Leu Leu Glu Met Ala Glu
           420                     425                     430
Glu Lys Thr Val Arg Asp Lys Glu Leu Glu Gly Leu Gln Val Lys Ile
       435                     440                     445
Gln Arg Leu Glu Lys Leu Cys Arg Ala Leu Gln Thr Glu Arg Asn Asp
   450                     455                     460
Leu Asn Lys Arg Val Gln Asp Leu Ser Ala Gly Gly Gln Gly Ser Leu
465                     470                     475                     480
Thr Asp Ser Gly Pro Glu Arg Arg Pro Glu Gly Pro Gly Ala Gln Ala
               485                     490                     495
Pro Ser Ser Pro Arg Val Thr Glu Ala Pro Cys Tyr Pro Gly Ala Pro
               500                     505                     510
Ser Thr Glu Ala Ser Gly Gln Thr Gly Pro Gln Glu Pro Thr Ser Ala
               515                     520                     525
```

Arg Ala
   530

<210> 9
<211> 20
<212> PRT
<213> Homo sapiens

<400> 9
Val Asp Val Asp Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp
 1   5   10   15
Gly Gly Asp Gly
        20

<210> 10
<211> 1404
<212> DNA
<213> Oryctolagus cuniculus

<220>
<221> CDS
<222> (58)...(510)

<400> 10
aagcctcgca gcggtcgggg cggcgccgcg gaggctcgag ggcggcgggc ggcggcg atg   60
                                                           Met
                                                            1

tcg aag aac acg gtg tcg tcg gcg cgg ttc cgg aag gtg gac gtg gat   108
Ser Lys Asn Thr Val Ser Ser Ala Arg Phe Arg Lys Val Asp Val Asp
            5   10   15

gag tac gac gag aac aag ttc gtg gac gag gaa gac ggc ggc gac ggc   156
Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp Gly Gly Asp Gly
         20   25   30

cag gcg ggg ccg gac gag ggc gag gtg gac tcg tgc ctg cgg caa ggg   204
Gln Ala Gly Pro Asp Glu Gly Glu Val Asp Ser Cys Leu Arg Gln Gly
     35   40   45

aac atg aca gcc gcc ctg cag gcg gcg ctg aag aac cct ccc atc aac   252
Asn Met Thr Ala Ala Leu Gln Ala Ala Leu Lys Asn Pro Pro Ile Asn
 50   55   60   65

acc agg agc cag gcg gtg aag gac cgg gca ggc agc atc gtg ctg aag   300
Thr Arg Ser Gln Ala Val Lys Asp Arg Ala Gly Ser Ile Val Leu Lys
            70   75   80

gtg ctc atc tcc ttc aag gcc ggc gac ata gaa aag gcc gtg cag tcc   348
Val Leu Ile Ser Phe Lys Ala Gly Asp Ile Glu Lys Ala Val Gln Ser
            85   90   95

ctg gac agg aac ggc gtg gac ctg ctc atg aag tac atc tac aag ggc   396
Leu Asp Arg Asn Gly Val Asp Leu Leu Met Lys Tyr Ile Tyr Lys Gly
         100   105   110

ttc gag agc ccc tcc gac aac agc agc gcc gtg ctc ctg cag tgg cac   444

```
Phe Glu Ser Pro Ser Asp Asn Ser Ser Ala Val Leu Leu Gln Trp His
    115             120             125

gag aag gcg ctg gct gca gga gga gtg ggc tcc atc gtc cgt gtc ctg        492
Glu Lys Ala Leu Ala Ala Gly Gly Val Gly Ser Ile Val Arg Val Leu
130             135             140             145

act gca agg aaa acc gtg tagcctggca ggaacgggtg cctgccgggg             540
Thr Ala Arg Lys Thr Val
                150

agcgggagct gccggtacaa agaccaaaac gcccagatgc cgccgctgcc ctgtgggcgg    600
cgtctgttcc cagcttcgct ttttcccttt cccgtgtctg tcaggattac ataaggtttc    660
ccttcgtgag aatcggagtg gcgcagaggg tcctgttcat acgcgccgtg cgtccggctg    720
tgtaagaccc ctgccttcag tgtccttgag caacggtagc gtgtcgccgg ctgggtttgg    780
ttttgtcgtg gagggatctg gtcagaattt gaggccagtt tcctaactca ttgctggtca    840
ggaaatgatc ttcatttaaa aaaaaaaaaa agactggcag ctattatgca aaactggacc    900
ctcttccctt atttaagcag agtgagtttc tggaaccagt ggtgccccc ccccgcccc      960
ggccgccgtc ctgctcaagg gaagcctccc tgcagagcag cagagcccct gggcaggagc   1020
gccgcgtccc gctcccagga cacagcatgc gcggtcacgc ggcacttcct gtgcctccca   1080
gccccagtgc cccggagttc ttcagggcga cagggacctc agaagactgg atccgatcca   1140
gacagacgcc cattcttggt tcagctcagt gttttcaaaa ggaacgtgct accgtgggta   1200
gagcacactg gttctcagaa cacggccggc gcttgacggt tgtcacagct ccagaacaaa   1260
tcctgggaga caggcgagcg cgagtcgccg ggcaggaatt ccacacactc gtgctgtttt   1320
tgatacctgc tttttgtttt gttttgtaaa aatgatgcac ttgagaaaat aaaacgtcag   1380
tgttgacaaa aaaaaaaaaa aaaa                                          1404
```

```
<210> 11
<211> 1617
<212> DNA
<213> Oryctolagus cuniculus

<220>
<221> CDS
<222> (1)...(951)

<400> 11
gac tgc cgc agc agc agc aac aac cgc tag ccg aag ggt ggc gcg gcg         48
Asp Cys Arg Ser Ser Ser Asn Asn Arg  *  Pro Lys Gly Gly Ala Ala
1            5                  10                      15

cgg gcc ggc ggc ccg gcg cgg ccc gtg agc ctg cgg gaa gtc gtg cgc        96
Arg Ala Gly Gly Pro Ala Arg Pro Val Ser Leu Arg Glu Val Val Arg
                20              25              30

tac ctc ggg ggt agc agc ggc gct ggc ggc cgc ctg acc cgc ggc cgc       144
Tyr Leu Gly Gly Ser Ser Gly Ala Gly Gly Arg Leu Thr Arg Gly Arg
                35              40              45

gtg cag ggt ctg ctg gaa gag gag gcg gcg gcg cgg ggc cgc ctg gag       192
Val Gln Gly Leu Leu Glu Glu Glu Ala Ala Ala Arg Gly Arg Leu Glu
            50              55              60

cgc acc cgt ctc gga gcg ctt gcg ctg ccc cgc ggg gac agg ccc gga       240
Arg Thr Arg Leu Gly Ala Leu Ala Leu Pro Arg Gly Asp Arg Pro Gly
    65              70              75
```

```
cgg gcg cca ccg gcc gcc agc gcc cgc gcg gcg cgg aac aag aga gct        288
Arg Ala Pro Pro Ala Ala Ser Ala Arg Ala Ala Arg Asn Lys Arg Ala
 80                  85                  90                  95

ggc gag gag cga gtg ctt gaa aag gag gag gag gag gag gag gag gaa        336
Gly Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Glu Glu Glu Glu Glu
                    100                 105                 110

gac gac gag gac gac gac gac gac gtc gtg tcc gag ggc tcg gag gtg        384
Asp Asp Glu Asp Asp Asp Asp Asp Val Val Ser Glu Gly Ser Glu Val
                115                 120                 125

ccc gag agc gat cgt ccc gcg ggt gcg cag cat cac cag ctg aat ggc        432
Pro Glu Ser Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly
            130                 135                 140

ggc gag cgc ggc ccg cag acc gcc aag gag cgg gcc aag gag tgg tcg        480
Gly Glu Arg Gly Pro Gln Thr Ala Lys Glu Arg Ala Lys Glu Trp Ser
        145                 150                 155

ctg tgt ggc ccc cac cct ggc cag gag gaa ggg cgg ggg ccg gcc gcg        528
Leu Cys Gly Pro His Pro Gly Gln Glu Glu Gly Arg Gly Pro Ala Ala
160                 165                 170                 175

ggc agt ggc acc cgc cag gtg ttc tcc atg gcg gcc ttg agt aag gag        576
Gly Ser Gly Thr Arg Gln Val Phe Ser Met Ala Ala Leu Ser Lys Glu
                180                 185                 190

ggg gga tca gcc tct tcg acc acc ggg cct gac tcc ccg tcc ccg gtg        624
Gly Gly Ser Ala Ser Ser Thr Thr Gly Pro Asp Ser Pro Ser Pro Val
                195                 200                 205

cct ttg ccc ccc ggg aag cca gcc ctc cca gga gcc gat ggg acc ccc        672
Pro Leu Pro Pro Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro
            210                 215                 220

ttt ggc tgc cct gcc ggg cgc aaa gag aag ccg gca gac ccc gtg gag        720
Phe Gly Cys Pro Ala Gly Arg Lys Glu Lys Pro Ala Asp Pro Val Glu
        225                 230                 235

tgg aca gtc atg gac gtc gtg gag tac ttc acc gag gcg ggc ttc cct        768
Trp Thr Val Met Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro
240                 245                 250                 255

gag caa gcc acg gct ttc cag gag cag gag atc gac ggc aag tcc ctg        816
Glu Gln Ala Thr Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu
                260                 265                 270

ctg ctc atg cag cgc acc gat gtc ctc acc ggc ctg tcc atc cgc ctg        864
Leu Leu Met Gln Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu
                275                 280                 285

ggg cca gcg ttg aaa atc tat gag cac cat atc aag gtg ctg cag cag        912
Gly Pro Ala Leu Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln
            290                 295                 300

ggt cac ttc gag gac gat gac ccg gaa ggc ttc ctg gga tgagcacaga        961
Gly His Phe Glu Asp Asp Asp Pro Glu Gly Phe Leu Gly
```

```
Gly His Phe Glu Asp Asp Asp Pro Glu Gly Phe Leu Gly
    305                 310                 315
```

```
gccgccgcgc cccttgtccc cacccccacc ccgcctggac ccattcctgc ctccatgtca   1021
cccaaggtgt cccagaggcc aggagctgga ctgggcaggc gaggggtgcg gacctaccct   1081
gattctggta gggggcgggg ccttgctgtg ctcattgcta ccccccacc ccgtgtgtgt    1141
ctctgcacct gcccccagca cacccctccc ggagcctgga tgtcgcctgg gactctggcc   1201
tgctcatttt gcccccagat cagccccctc cctccctcct gtcccaggac attttttaaa   1261
agaaaaaaag gaaaaaaaaa aattggggag ggggctggga aggtgcccca agatcctcct   1321
cggcccaacc aggtgtttat tcctatatat atatatatat gttttgttct gcctgttttt   1381
cgttttttgg tgcgtggcct ttcttccctc ccaccaccac tcatggcccc agccctgctc   1441
gccctgtcgg cgggagcagc tgggaatggg aggagggtgg gaccttgggt ctgtctccca   1501
ccctctctcc cgttggttct gttgtcgctc cagctggctg tattgctttt taatattgca   1561
ccgaagggtt gttttttttt ttttaaataa aattttaaaa aaaggaaaaa aaaaaa       1617
```

<210> 12
<211> 1362
<212> DNA
<213> Oryctolagus cuniculus

<220>
<221> CDS
<222> (1)...(696)

<400> 12
```
gcc agc gcc cgc gcg gcg cgg aac aag aga gct ggc gag gag cga gtg    48
Ala Ser Ala Arg Ala Ala Arg Asn Lys Arg Ala Gly Glu Glu Arg Val
 1               5                   10                  15
```

```
ctt gaa aag gag gag gag gag gag gag gag gaa gac gac gag gac gac    96
Leu Glu Lys Glu Glu Glu Glu Glu Glu Glu Glu Asp Asp Glu Asp Asp
            20                  25                  30
```

```
gac gac gac gtc gtg tcc gag ggc tcg gag gtg ccc gag agc gat cgt   144
Asp Asp Asp Val Val Ser Glu Gly Ser Glu Val Pro Glu Ser Asp Arg
        35                  40                  45
```

```
ccc gcg ggt gcg cag cat cac cag ctg aat ggc ggc gag cgc ggc ccg   192
Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Gly Glu Arg Gly Pro
    50                  55                  60
```

```
cag acc gcc aag gag cgg gcc aag gag tgg tcg ctg tgt ggc ccc cac   240
Gln Thr Ala Lys Glu Arg Ala Lys Glu Trp Ser Leu Cys Gly Pro His
65                  70                  75                  80
```

```
cct ggc cag gag gaa ggg cgg ggg ccg gcc gcg ggc agt ggc acc cgc   288
Pro Gly Gln Glu Glu Gly Arg Gly Pro Ala Ala Gly Ser Gly Thr Arg
                85                  90                  95
```

```
cag gtg ttc tcc atg gcg gcc ttg agt aag gag ggg gga tca gcc tct   336
Gln Val Phe Ser Met Ala Ala Leu Ser Lys Glu Gly Gly Ser Ala Ser
                100                 105                 110
```

```
tcg acc acc ggg cct gac tcc ccg tcc ccg gtg cct ttg ccc ccc ggg   384
Ser Thr Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro Pro Gly
            115                 120                 125
```

```
aag cca gcc ctc cca gga gcc gat ggg acc ccc ttt ggc tgc cct gcc        432
Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys Pro Ala
    130                 135                 140

ggg cgc aaa gag aag ccg gca gac ccc gtg gag tgg aca gtc atg gac        480
Gly Arg Lys Glu Lys Pro Ala Asp Pro Val Glu Trp Thr Val Met Asp
145                 150                 155                 160

gtc gtg gag tac ttc acc gag gcg ggc ttc cct gag caa gcc acg gct        528
Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala Thr Ala
                165                 170                 175

ttc cag gag cag gag atc gac ggc aag tcc ctg ctg ctc atg cag cgc        576
Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met Gln Arg
                180                 185                 190

acc gat gtc ctc acc ggc ctg tcc atc cgc ctg ggg cca gcg ttg aaa        624
Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala Leu Lys
            195                 200                 205

atc tat gag cac cat atc aag gtg ctg cag cag ggt cac ttc gag gac        672
Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly His Phe Glu Asp
    210                 215                 220

gat gac ccg gaa ggc ttc ctg gga tgagcacaga gccgccgcgc cccttgtccc       726
Asp Asp Pro Glu Gly Phe Leu Gly
225                 230

cacccccacc ccgcctggac ccattcctgc ctccatgtca cccaaggtgt cccagaggcc      786
aggagctgga ctgggcaggc gaggggtgcg gacctaccct gattctggta gggggcgggg      846
ccttgctgtg ctcattgcta ccccccacc ccgtgtgtgt ctctgcacct gcccccagca       906
caccctccc ggagcctgga tgtcgcctgg gactctggcc tgctcatttt gcccccagat       966
cagcccctc cctccctcct gtcccaggac attttttaaa agaaaaaaag gaaaaaaaaa       1026
aattggggag ggggctggga aggtgcccca agatcctcct cggcccaacc aggtgtttat      1086
tcctatatat atatatat gttttgttct gcctgttttt cgttttttgg tgcgtggcct        1146
ttcttccctc ccaccaccac tcatggcccc agccctgctc gccctgtcgg cgggagcagc      1206
tgggaatggg aggagggtgg gaccttgggt ctgtctccca ccctctctcc cgttggttct      1266
gttgtcgctc cagctggctg tattgctttt taatattgca ccgaagggtt gttttttttt     1326
ttttaaataa aattttaaaa aaaggaaaaa aaaaaa                                1362
```

<210> 13
<211> 1422
<212> DNA
<213> Oryctolagus cuniculus

<220>
<221> CDS
<222> (1)...(756)

<400> 13

```
acc cgt ctc gga gcg ctt gcg ctg ccc cgc ggg gac agg ccc gga cgg         48
Thr Arg Leu Gly Ala Leu Ala Leu Pro Arg Gly Asp Arg Pro Gly Arg
1               5                   10                  15

gcg cca ccg gcc gcc agc gcc cgc gcg gcg cgg aac aag aga gct ggc         96
Ala Pro Pro Ala Ala Ser Ala Arg Ala Ala Arg Asn Lys Arg Ala Gly
            20                  25                  30
```

```
gag gag cga gtg ctt gaa aag gag gag gag gag gag gag gag gaa gac        144
Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Glu Glu Glu Glu Glu Asp
        35              40                  45

gac gag gac gac gac gac gac gtc gtg tcc gag ggc tcg gag gtg ccc        192
Asp Glu Asp Asp Asp Asp Asp Val Val Ser Glu Gly Ser Glu Val Pro
        50                  55                  60

gag agc gat cgt ccc gcg ggt gcg cag cat cac cag ctg aat ggc ggc        240
Glu Ser Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Gly
65                  70                  75                  80

gag cgc ggc ccg cag acc gcc aag gag cgg gcc aag gag tgg tcg ctg        288
Glu Arg Gly Pro Gln Thr Ala Lys Glu Arg Ala Lys Glu Trp Ser Leu
                    85                  90                  95

tgt ggc ccc cac cct ggc cag gag gaa ggg cgg ggg ccg gcc gcg ggc        336
Cys Gly Pro His Pro Gly Gln Glu Glu Gly Arg Gly Pro Ala Ala Gly
                100                 105                 110

agt ggc acc cgc cag gtg ttc tcc atg gcg gcc ttg agt aag gag ggg        384
Ser Gly Thr Arg Gln Val Phe Ser Met Ala Ala Leu Ser Lys Glu Gly
            115                 120                 125

gga tca gcc tct tcg acc acc ggg cct gac tcc ccg tcc ccg gtg cct        432
Gly Ser Ala Ser Ser Thr Thr Gly Pro Asp Ser Pro Ser Pro Val Pro
130                 135                 140

ttg ccc ccc ggg aag cca gcc ctc cca gga gcc gat ggg acc ccc ttt        480
Leu Pro Pro Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe
145                 150                 155                 160

ggc tgc cct gcc ggg cgc aaa gag aag ccg gca gac ccc gtg gag tgg        528
Gly Cys Pro Ala Gly Arg Lys Glu Lys Pro Ala Asp Pro Val Glu Trp
                    165                 170                 175

aca gtc atg gac gtc gtg gag tac ttc acc gag gcg ggc ttc cct gag        576
Thr Val Met Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu
                180                 185                 190

caa gcc acg gct ttc cag gag cag gag atc gac ggc aag tcc ctg ctg        624
Gln Ala Thr Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu
            195                 200                 205

ctc atg cag cgc acc gat gtc ctc acc ggc ctg tcc atc cgc ctg ggg        672
Leu Met Gln Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly
        210                 215                 220

cca gcg ttg aaa atc tat gag cac cat atc aag gtg ctg cag cag ggt        720
Pro Ala Leu Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly
225                 230                 235                 240

cac ttc gag gac gat gac ccg gaa ggc ttc ctg gga tgagcacaga            766
His Phe Glu Asp Asp Asp Pro Glu Gly Phe Leu Gly
                245                 250
```

```
gccgccgcgc cccttgtccc cacccccacc ccgcctggac ccattcctgc ctccatgtca    826
cccaaggtgt cccagaggcc aggagctgga ctgggcaggc gaggggtgcg gacctaccct    886
gattctggta gggggcgggg ccttgctgtg ctcattgcta ccccccacc ccgtgtgtgt    946
ctctgcacct gcccccagca cacccctccc ggagcctgga tgtcgcctgg gactctggcc   1006
tgctcatttt gcccccagat cagccccctc cctccctcct gtcccaggac attttttaaa   1066
agaaaaaaag gaaaaaaaaa aattggggag ggggctggga aggtgcccca agatcctcct   1126
cggcccaacc aggtgtttat tcctatatat atatatatat gttttgttct gcctgttttt   1186
cgttttttgg tgcgtggcct ttcttccctc ccaccaccac tcatggcccc agccctgctc   1246
gccctgtcgg cgggagcagc tgggaatggg aggagggtgg gaccttgggt ctgtctccca   1306
ccctctctcc cgttggttct gttgtcgctc cagctggctg tattgctttt taatattgca   1366
ccgaagggtt gttttttttt ttttaaataa aattttaaaa aaaggaaaaa aaaaaa       1422
```

<210> 14
<211> 4722
<212> DNA
<213> Oryctolagus cuniculus

<220>
<221> CDS
<222> (61)...(1731)

<400> 14
```
gtggaaaata gcaactgtgt ttctcaagga tccaatccca acctaaggtg gcagcgcaca    60
atg aag aat caa gac aaa aag aac ggg gct gcc aaa cag ccc aac ccc   108
Met Lys Asn Gln Asp Lys Lys Asn Gly Ala Ala Lys Gln Pro Asn Pro
 1               5                  10                  15

aaa agc agc ccg gga cag ccg gaa gca gga gcg gag gga gcc cag ggg   156
Lys Ser Ser Pro Gly Gln Pro Glu Ala Gly Ala Glu Gly Ala Gln Gly
             20                  25                  30

cgg ccc ggc cgg ccg gcc ccc gcc cga gaa gcc gaa ggt gcc agc agc   204
Arg Pro Gly Arg Pro Ala Pro Ala Arg Glu Ala Glu Gly Ala Ser Ser
         35                  40                  45

cag gct ccc ggg agg ccg gag ggg gct caa gcc aaa act gct cag cct   252
Gln Ala Pro Gly Arg Pro Glu Gly Ala Gln Ala Lys Thr Ala Gln Pro
     50                  55                  60

ggg gcg ctc tgt gat gtc tct gag gag ctg agc cgc cag ttg gaa gac   300
Gly Ala Leu Cys Asp Val Ser Glu Glu Leu Ser Arg Gln Leu Glu Asp
 65                  70                  75                  80

ata ctc agt aca tac tgt gtg gac aac aac cag ggg gcc ccg ggt gag   348
Ile Leu Ser Thr Tyr Cys Val Asp Asn Asn Gln Gly Ala Pro Gly Glu
                 85                  90                  95

gat ggg gtc cag ggt gag ccc cct gaa cct gaa gat gca gag aag tct   396
Asp Gly Val Gln Gly Glu Pro Pro Glu Pro Glu Asp Ala Glu Lys Ser
             100                 105                 110

cgc gcc tat gtg gca agg aat ggg gag ccg gag ccg ggc acc cca gta   444
Arg Ala Tyr Val Ala Arg Asn Gly Glu Pro Glu Pro Gly Thr Pro Val
         115                 120                 125

gtc aat ggc gag aag gag acc tcc aag gca gag ccg ggc acg gaa gag   492
Val Asn Gly Glu Lys Glu Thr Ser Lys Ala Glu Pro Gly Thr Glu Glu
```

```
            130                    135                    140

atc cgg acg agc gat gag gtc gga gac cga gac cac cgg agg cca cag      540
Ile Arg Thr Ser Asp Glu Val Gly Asp Arg Asp His Arg Arg Pro Gln
145                 150                 155                 160

gaa aag aag aag gcc aag ggt ctg gga aag gag atc acg ctg ctg atg      588
Glu Lys Lys Lys Ala Lys Gly Leu Gly Lys Glu Ile Thr Leu Leu Met
                    165                 170                 175

cag aca ctg aac acg ctg agc acc cca gag gag aag ctg gcg gct ctg      636
Gln Thr Leu Asn Thr Leu Ser Thr Pro Glu Glu Lys Leu Ala Ala Leu
                180                 185                 190

tgc aag aag tat gcg gaa ctg ctc gag gag cac cgg aac tcg cag aag      684
Cys Lys Lys Tyr Ala Glu Leu Leu Glu Glu His Arg Asn Ser Gln Lys
                195                 200                 205

cag atg aag ctg ctg cag aag aag cag agc cag ctg gtg cag gag aag      732
Gln Met Lys Leu Leu Gln Lys Lys Gln Ser Gln Leu Val Gln Glu Lys
        210                 215                 220

gac cac ctg cgt ggc gag cac agc aag gcc atc ctg gcc cgc agc aag      780
Asp His Leu Arg Gly Glu His Ser Lys Ala Ile Leu Ala Arg Ser Lys
225                 230                 235                 240

ctc gag agc ctg tgc cgg gag ctg cag cgg cac aac cgc tcg ctc aag      828
Leu Glu Ser Leu Cys Arg Glu Leu Gln Arg His Asn Arg Ser Leu Lys
                    245                 250                 255

gaa gaa ggt gtg cag cga gcc cga gag gag gag gag aag cgc aag gag      876
Glu Glu Gly Val Gln Arg Ala Arg Glu Glu Glu Glu Lys Arg Lys Glu
                260                 265                 270

gtg acg tca cac ttc cag atg acg ctc aac gac att cag ctg cag atg      924
Val Thr Ser His Phe Gln Met Thr Leu Asn Asp Ile Gln Leu Gln Met
                275                 280                 285

gag cag cac aac gag cgc aac tcc aag ctg cgc cag gag aac atg gag      972
Glu Gln His Asn Glu Arg Asn Ser Lys Leu Arg Gln Glu Asn Met Glu
        290                 295                 300

ctg gcc gag cgg ctc aag aag ctg att gag cag tac gag ctg cga gaa     1020
Leu Ala Glu Arg Leu Lys Lys Leu Ile Glu Gln Tyr Glu Leu Arg Glu
305                 310                 315                 320

gag cac atc gac aaa gtc ttc aaa cac aag gat ctg cag cag cag ctg     1068
Glu His Ile Asp Lys Val Phe Lys His Lys Asp Leu Gln Gln Gln Leu
                325                 330                 335

gtg gac gcc aag ctc cag cag gcc cag gag atg ctg aag gag gca gag     1116
Val Asp Ala Lys Leu Gln Gln Ala Gln Glu Met Leu Lys Glu Ala Glu
                340                 345                 350

gag cgg cac cag cgg gag aag gac ttt ctc ctg aag gag gcc gtg gag     1164
Glu Arg His Gln Arg Glu Lys Asp Phe Leu Leu Lys Glu Ala Val Glu
        355                 360                 365
```

```
tcc cag agg atg tgc gag ctg atg aag caa cag gag acc cac ctg aag    1212
Ser Gln Arg Met Cys Glu Leu Met Lys Gln Gln Glu Thr His Leu Lys
    370                 375                 380

cag cag ctt gcc cta tac aca gag aag ttt gag gag ttc cag aac act    1260
Gln Gln Leu Ala Leu Tyr Thr Glu Lys Phe Glu Glu Phe Gln Asn Thr
385                 390                 395                 400

ctt tcc aaa agc agc gag gtg ttc acc aca ttc aaa cag gaa atg gaa    1308
Leu Ser Lys Ser Ser Glu Val Phe Thr Thr Phe Lys Gln Glu Met Glu
                405                 410                 415

aag atg aca aag aag atc aag aag ctg gag aaa gag acc acc atg tac    1356
Lys Met Thr Lys Lys Ile Lys Lys Leu Glu Lys Glu Thr Thr Met Tyr
                420                 425                 430

cgt tcc cgg tgg gag agc agc aac aag gcc ctg ctt gag atg gct gag    1404
Arg Ser Arg Trp Glu Ser Ser Asn Lys Ala Leu Leu Glu Met Ala Glu
        435                 440                 445

gag aaa aca ctc cgg gac aaa gag ctg gaa ggc ctg cag gtg aaa atc    1452
Glu Lys Thr Leu Arg Asp Lys Glu Leu Glu Gly Leu Gln Val Lys Ile
    450                 455                 460

cag cgg ctg gag aag ctg tgc cgg gca ctg cag aca gag cgc aat gac    1500
Gln Arg Leu Glu Lys Leu Cys Arg Ala Leu Gln Thr Glu Arg Asn Asp
465                 470                 475                 480

ctg aac aag agg gtg cag gac ctg agt gcc ggt ggc cag ggc ccc gtc    1548
Leu Asn Lys Arg Val Gln Asp Leu Ser Ala Gly Gly Gln Gly Pro Val
                485                 490                 495

tcc gac agc ggt cct gag cgg agg cca gag ccc gcc acc acc tcc aag    1596
Ser Asp Ser Gly Pro Glu Arg Arg Pro Glu Pro Ala Thr Thr Ser Lys
                500                 505                 510

gag cag ggt gtc gag ggc ccc ggg gct caa gta ccc aac tct cca agg    1644
Glu Gln Gly Val Glu Gly Pro Gly Ala Gln Val Pro Asn Ser Pro Arg
        515                 520                 525

gcc aca gac gct tcc tgc tgc gca ggt gca ccc agc aca gag gca tca    1692
Ala Thr Asp Ala Ser Cys Cys Ala Gly Ala Pro Ser Thr Glu Ala Ser
    530                 535                 540

ggc cag aca ggg ccc cag gag ccc acc act gcc act gcc tagagagctt    1741
Gly Gln Thr Gly Pro Gln Glu Pro Thr Thr Ala Thr Ala
545                 550                 555

ggtgctgggg tgtgccagga agggagcagg cagcccagcc aggcctggcc cagcccaggc    1801
tcccatgcta agcagtccgg tgctgaggcc aggatgttct gacctggctg gcacctgacc    1861
ctctgcagtc ttggattttg tgggtcagtt ttacatgcat atggcacaca tgcaaggcct    1921
cacacatttg tgtctctaag tgtactgtgg gcttgcatcg ggggtgacga tggacagatg    1981
aagccagcgg ctcccttgtg agctgaagtc ttacggagga gacggcgtct gcactgccat    2041
cgcagtgacc tgcaggacga gttccttgag ctttccctgc ctgctttgag gctgagaccc    2101
ctcccggccc ttcagagctc ctgacaggtg atacacaccc agccttgacc gcacttctct    2161
tgggtagctg ggctctccta gcctccccca gaggcgccat tgcttctctt gacttggaga    2221
```

```
gggatgccc aggcgtggcc ttggcaggca ctgggagcta gtgattgggc tgctctcctg    2281
cctcgagcag gggcaggagt gtttctggtg ggatgatgcg ctcgctggtc aggagccccg    2341
tgggcgctgc ttcccccgcc ctctggtgat gccaggacca ggccagtgat gcttctcagt    2401
agccttacca ttcacaggtg cctctccagc ccgcacagtg agtgacaaga tcatccaaag    2461
gattccttct gaaggtgttc gtttcgtttt gttttgttgc acgtgacggt ttgtattgag    2521
gaccctctga ggaagagggg tgctgtagca gtggtccctg cgtgcctggc tccagtgtcc    2581
tgccctcccc cccctcgcca tggctcctcg gccgccttgg tgctgaggtt tctgtttggt    2641
gagatcaggt tgtctgttca gagagaagag gcgtctgatg gctttgccgc cagcttgcct    2701
gcgggcctca atcccgggag gccgcccggt tcccgtcact gttgtccccg tgcagtgcgt    2761
tgctggtccc caggaccagc tgctcgtttg ctgtatgggt cagtttctgc ttcctgcccc    2821
ccactccacc taactgcaat ccttgggggtt tccctggttc tcgtccctgg tacctctgtg    2881
cccaagaagt agccttcttt gggattcttg ttctgcccat gcgggagctg ctgctgtctg    2941
acaggtgagg cctgagactc agcggctgac agagctgcag agctctgcac ggtggctccc    3001
ggggcggcct ctgtgtgctg cacaccgctg ctctgctggc actggccagt ctgtgcagag    3061
catttgagta ctggctcagg agggagggct ctgctggcct cgagggacag cgccacgtct    3121
ccagctgggc tcagggagag ccccagactg gctgcgtagg gtgcttgggg tttgcttctt    3181
gcagtatttc ttggaagctg ttttgttgtc ctgctattcc ttcatcttcc acagtccacg    3241
ctcagccttt aacttggatc cctcacataa cagggttcat gagacccgca agtacgccca    3301
agctacgtat ggctgaggcc agctggcagg tgaatggcac gccattgctg ctgctaatcc    3361
ctggcatatc tttagttcac ctcgaaatgc ccccgccaca gtgcaagcag tgagtccacg    3421
tgccaccctg ggctgaatcc cacccctgt gagtgttgcc cgagattgtg tctcttctga    3481
atgccttcac tgggaatggc ctctgccgcc tcctgctcag ggaggctttc cccttccctc    3541
agccctgtg ccagactgag gtacaagaac cgccaagccc atgcaaggtg tggctaggcg    3601
ccagggtgca ggaaggaggc aggtagctgc ctgcacccct gaaagccaag aggcctacgg    3661
tggcctccat cctggcttgc ctcacttcag ctacctcgca tagcccaggg gtggggctat    3721
tggattccag ggtgggggga tgggaagctg caggggggcag gtggctctca ctaggcttcc    3781
cagctcagga atgtgggcct caggtagggg agagcctttg ctccactcca cccatttgca    3841
ggcatctagg ccagtctaga tggcgacccc ttctcttcct ctccattgac caaatcgtac    3901
ctgtctctcc agctgctcgc ttgctctgct ttccaaagtc agcccaggta cccaggtgcc    3961
gcccacattg gcctggaacc tggaccagag gcaagggagg tggcctatcc ttgagtgata    4021
gccagtgcct tcctcacccg gtggcttcca tgcctgtgac ctcagattta ggaccaagag    4081
ctgtgttggt ttcttacgtt gtgagctttc cctccagggg accacagcag gtgaggctcg    4141
gagcccagag ccccttggcgc cgccagcagt aacttgtgtc cggaccttgt ccagctgagc    4201
gcttcgtgta tgactcagct tcgtgtgtga gtccagcgga gtgcgtcacg tgacctagac    4261
tcagcggtgt cagccgcact ttgatttgtt tgttttccat gaggtttttg gaccatgggc    4321
ttagctcagg caacttttct gtaaggagaa tgttaacttt ctgtaaagat gcttatttaa    4381
ctaacgcctg cttcccccac tcccaaccag gtggccaccg agagctcacc aggaggccaa    4441
tagagctgct ccagctctcc catcttgcac cgcacaaagg tggccgcccc agggacagcc    4501
aggcacctgc ctggggagg ggcttctctt ccttatggcc tggccatcta gattgtttaa    4561
agttgtgctg acagctttt ttggtttttt ggtttttgtt tttgtttttg tttttgtttt    4621
tgtctacttt tggtattcac aacagccagg gacttgattt tgatgtattt taagccacat    4681
taaataaaga gtctgttgcc ttaaaaaaaa aaaaaaaaa a                         4722
```

<210> 15
<211> 1925
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (118)...(570)

<400> 15
```
gacgcctcag agcggaacag ggaagtgaat caggcgccgg gtagtgggtt gctgggctgg    60
gcttgctgag gtagaggcag cgccaagaag aggcctttgc cgctggtcgg gattggg atg   120
                                                                Met
                                                                 1
```

```
tcg aag aac aca gtg tcg tcg gcc cgc ttc cgg aag gtg gac gtg gat        168
Ser Lys Asn Thr Val Ser Ser Ala Arg Phe Arg Lys Val Asp Val Asp
          5                   10                  15

gaa tat gac gag aac aag ttc gtg gac gaa gaa gat ggg ggc gac ggc        216
Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp Gly Gly Asp Gly
          20                  25                  30

cag gcc ggg ccc gac gag ggc gag gtg gac tcc tgc ctg cgg caa gga        264
Gln Ala Gly Pro Asp Glu Gly Glu Val Asp Ser Cys Leu Arg Gln Gly
      35                  40                  45

aac atg aca gct gcc cta cag gca gct ctg aag aac ccc cct atc aac        312
Asn Met Thr Ala Ala Leu Gln Ala Ala Leu Lys Asn Pro Pro Ile Asn
50                  55                  60                  65

acc aag agt cag gca gtg aag gac cgg gca ggc agc att gtc ttg aag        360
Thr Lys Ser Gln Ala Val Lys Asp Arg Ala Gly Ser Ile Val Leu Lys
                  70                  75                  80

gtg ctc atc tct ttt aaa gct aat gat ata gaa aag gca gtt caa tct        408
Val Leu Ile Ser Phe Lys Ala Asn Asp Ile Glu Lys Ala Val Gln Ser
                  85                  90                  95

ctg gac aag aat ggt gtg gat ctc cta atg aag tat att tat aaa gga        456
Leu Asp Lys Asn Gly Val Asp Leu Leu Met Lys Tyr Ile Tyr Lys Gly
              100                 105                 110

ttt gag agc ccg tct gac aat agc agt gct atg tta ctg caa tgg cat        504
Phe Glu Ser Pro Ser Asp Asn Ser Ser Ala Met Leu Leu Gln Trp His
        115                 120                 125

gaa aag gca ctt gct gct gga gga gta ggg tcc att gtt cgt gtc ttg        552
Glu Lys Ala Leu Ala Ala Gly Gly Val Gly Ser Ile Val Arg Val Leu
130                 135                 140                 145

act gca aga aaa act gtg tagtctggca ggaagtggat tatctgcctc              600
Thr Ala Arg Lys Thr Val
                  150

gggagtggga attgctggta caaagaccaa acaaccaaa tgccaccgct gccctgtggg       660
tagcatctgt ttctctcagc tttgccttct tgctttttca tatctgtaaa gaaaaaaatt       720
acatatcagt tgtcccttta atgaaaattg ggataatata gaagaaattg tgttaaaata       780
gaagtgtttc atcctttcaa aaccatttca gtgatgttta taccaatctg tatatagtat       840
aatttacatt caagtttaa ttgtgcaact tttaaccctg ttggctggtt tttggttctg        900
tttggttttg tattatttt aactaatact gaaaaatttg gtcagaattt gaggccagtt        960
tcctagctca ttgctagtca ggaaatgata tttataaaaa atatgagaga ctggcagcta      1020
ttaacattgc aaaactggac catatttccc ttatttaata agcaaatat gttttttggaa      1080
taagtggtgg gtgaatacca ctgctaagtt atagctttgt ttttgcttgc ctcctcatta      1140
tctgtactgt gggtttaagt atgctacttt ctctcagcat ccaataatca tggcccctca      1200
atttatttgt ggtcacgcag ggttcagagc aagaagtctt gctttataca aatgtatcca      1260
taaaatatca gagcttgttg ggcatgaaca tcaaactttt gttccactaa·tatggctctg      1320
tttggaaaaa actgcaaatc agaagaatg atttgcagaa agaaagaaaa actatggtgt       1380
aatttaaact ctgggcagcc tctgaatgaa atgctacttt ctttagaaat ataatagctg      1440
ccttagacat tatgaggtat acaactagta tttaagatac catttaatat gccccgtaaa      1500
tgtcttcagt gttcttcagg gtagttggga tctcaaaaga tttggttcag atccaaacaa      1560
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atacacattc tgtgttttag ctcagtgttt tctaaaaaaa gaaactgcca cacagcaaaa    1620
aattgtttac tttgttggac aaaccaaatc agttctcaaa aaatgaccgg tgcttataaa    1680
aagttataaa tatcgagtag ctctaaaaca aaccacctga ccaagaggga agtgagcttg    1740
tgcttagtat ttacattgga tgccagtttt gtaatcactg acttatgtgc aaactggtgc    1800
agaaattcta taaactcttt gctgtttttg atacctgctt tttgtttcat tttgttttgt    1860
tttgtaaaaa tgataaaact tcagaaaata aaatgtcagt gttgaataat taaaaaaaaa    1920
aaaaa                                                                1925
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<210> 16
<211> 1208
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(651)

<400> 16
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Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Glu Asp Asp Asp Glu Asp
 1               5                  10                  15


gaa gat gaa gaa gat gat gtg tca gag ggc tct gaa gtg ccc gag agt      96
Glu Asp Glu Glu Asp Asp Val Ser Glu Gly Ser Glu Val Pro Glu Ser
            20                  25                  30


gac cgt cct gca ggt gcc cag cac cac cag ctt aac ggc gag cgg gga     144
Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Glu Arg Gly
        35                  40                  45


cct cag agt gcc aag gag agg gtc aag gag tgg acc ccc tgc gga ccg     192
Pro Gln Ser Ala Lys Glu Arg Val Lys Glu Trp Thr Pro Cys Gly Pro
    50                  55                  60


cac cag ggc cag gat gaa ggg cgg ggg cca gcc ccg ggc agc ggc acc     240
His Gln Gly Gln Asp Glu Gly Arg Gly Pro Ala Pro Gly Ser Gly Thr
65                  70                  75                  80


cgc cag gtg ttc tcc atg gca gcc atg aac aag gaa ggg gga aca gct     288
Arg Gln Val Phe Ser Met Ala Ala Met Asn Lys Glu Gly Gly Thr Ala
                85                  90                  95


tct gtt gcc acc ggg cca gac tcc ccg tcc ccc gtg cct ttg ccc cca     336
Ser Val Ala Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro Pro
            100                 105                 110


ggc aaa cca gcc cta cct ggg gcc gac ggg acc ccc ttt ggc tgt cct     384
Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys Pro
            115                 120                 125


ccc ggg cgc aaa gag aag cca tct gat ccc gtc gag tgg acc gtg atg     432
Pro Gly Arg Lys Glu Lys Pro Ser Asp Pro Val Glu Trp Thr Val Met
    130                 135                 140


gat gtc gtc gaa tat ttt act gag gct gga ttc ccg gag cag gcg aca     480
Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala Thr
145                 150                 155                 160
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gct ttc caa gag cag gaa att gat ggc aaa tct ttg ctg ctc atg cag        528
Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met Gln
            165                 170                 175

cgc aca gat gtg ctc acc ggc ctg tcc atc cgc ctc ggg cca gcc ctg        576
Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala Leu
            180                 185                 190

aaa atc tac gag cac cac atc aag gtg ctt cag caa ggc cac ttt gag        624
Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly His Phe Glu
            195                 200                 205

gat gat gac ccc gat ggc ttc tta ggc tgagcgccca gcctcacccc            671
Asp Asp Asp Pro Asp Gly Phe Leu Gly
            210                 215

tgccccagcc cattccggcc cccatctcac ccaagatccc ccagagtcca ggagctggac        731
ggggacaccc tcagccctca taacagattc caaggagagg gcaccctctt gtccttatct        791
ttgccccttg tgtctgtctc acacacatct gctcctcagc acgtcggtgt ggggagggga        851
ttgctcctta aaccccaggt ggctgaccct ccccacccag tccaggacat tttaggaaaa        911
aaaaaatgaa atgtgggggg cttctcatct ccccaagatc ctcttccgtt cagccagatg        971
tttcctgtat aaatgtttgg atctgcctgt ttattttggt gggtggtctt tcctccctcc        1031
cctaccaccc atgcccccct tctcagtctg cccctggcct ccagccccta ggggactagc        1091
tgggttgggg ttcctcgggc cttttctctc ctccctcttt tctttctgtt gattgtcgct        1151
ccagctggct gtattgcttt ttaatattgc accgaaggtt ttttaaataa aattttta          1208


<210> 17
<211> 4697
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (3)...(1592)

<400> 17
ca aaa agc agc cca gga caa ccg gaa gca gga ccc gag gga gcc cag        47
   Lys Ser Ser Pro Gly Gln Pro Glu Ala Gly Pro Glu Gly Ala Gln
   1               5                   10                  15

gag cgg ccc agc cag gcg gct cct gca gta gaa gca gaa ggt ccc ggc        95
Glu Arg Pro Ser Gln Ala Ala Pro Ala Val Glu Ala Glu Gly Pro Gly
                20                  25                  30

agc agc cag gct cct cgg aag ccg gag ggg gct caa gcc aga acg gct        143
Ser Ser Gln Ala Pro Arg Lys Pro Glu Gly Ala Gln Ala Arg Thr Ala
                35                  40                  45

cag tct ggg gcc ctt cgt gat gtc tct gag gag ctg agc cgc caa ctg        191
Gln Ser Gly Ala Leu Arg Asp Val Ser Glu Glu Leu Ser Arg Gln Leu
            50                  55                  60

gaa gac ata ctg agc aca tac tgt gtg gac aat aac cag ggg ggc ccc        239
Glu Asp Ile Leu Ser Thr Tyr Cys Val Asp Asn Asn Gln Gly Gly Pro
65                  70                  75
```

```
ggc gag gat ggg gca cag ggt gag ccg gct gaa ccc gaa gat gca gag        287
Gly Glu Asp Gly Ala Gln Gly Glu Pro Ala Glu Pro Glu Asp Ala Glu
 80               85               90                   95

aag tcc cgg acc tat gtg gca agg aat ggg gag cct gaa cca act cca        335
Lys Ser Arg Thr Tyr Val Ala Arg Asn Gly Glu Pro Glu Pro Thr Pro
                100              105              110

gta gtc tat gga gag aag gaa ccc tcc aag ggg gat cca aac aca gaa        383
Val Val Tyr Gly Glu Lys Glu Pro Ser Lys Gly Asp Pro Asn Thr Glu
                115              120              125

gag atc cgg cag agt gac gag gtc gga gac cga gac cat cga agg cca        431
Glu Ile Arg Gln Ser Asp Glu Val Gly Asp Arg Asp His Arg Arg Pro
                130              135              140

cag gag aag aaa aaa gcc aag ggt ttg ggg aag gag atc acg ttg ctg        479
Gln Glu Lys Lys Lys Ala Lys Gly Leu Gly Lys Glu Ile Thr Leu Leu
                145              150              155

atg cag aca ttg aat act ctg agt acc cca gag gag aag ctg gct gct        527
Met Gln Thr Leu Asn Thr Leu Ser Thr Pro Glu Glu Lys Leu Ala Ala
160              165              170              175

ctg tgc aag aag tat gct gaa ctg ctg gag gag cac cgg aat tca cag        575
Leu Cys Lys Lys Tyr Ala Glu Leu Leu Glu Glu His Arg Asn Ser Gln
                180              185              190

aag cag atg aag ctc cta cag aaa aag cag agc cag ctg gtg caa gag        623
Lys Gln Met Lys Leu Leu Gln Lys Lys Gln Ser Gln Leu Val Gln Glu
                195              200              205

aag gac cac ctg cgc ggt gag cac agc aag gcc gtc ctg gcc cgc agc        671
Lys Asp His Leu Arg Gly Glu His Ser Lys Ala Val Leu Ala Arg Ser
                210              215              220

aag ctt gag agc cta tgc cgt gag ctg cag cgg cac aac cgc tcc ctc        719
Lys Leu Glu Ser Leu Cys Arg Glu Leu Gln Arg His Asn Arg Ser Leu
                225              230              235

aag gaa gaa ggt gtg cag cgg gcc cgg gag gag gag gag aag cgc aag        767
Lys Glu Glu Gly Val Gln Arg Ala Arg Glu Glu Glu Glu Lys Arg Lys
240              245              250              255

gag gtg acc tcg cac ttc cag gtg aca ctg aat gac att cag ctg cag        815
Glu Val Thr Ser His Phe Gln Val Thr Leu Asn Asp Ile Gln Leu Gln
                260              265              270

atg gaa cag cac aat gag cgc aac tcc aag ctg cgc caa gag aac atg        863
Met Glu Gln His Asn Glu Arg Asn Ser Lys Leu Arg Gln Glu Asn Met
                275              280              285

gag ctg gct gag agg ctc aag aag ctg att gag cag tat gag ctg cgc        911
Glu Leu Ala Glu Arg Leu Lys Lys Leu Ile Glu Gln Tyr Glu Leu Arg
                290              295              300

gag gag cat atc gac aaa gtc ttc aaa cac aag gac cta caa cag cag        959
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```
Glu Glu His Ile Asp Lys Val Phe Lys His Lys Asp Leu Gln Gln Gln
    305                 310                 315

ctg gtg gat gcc aag ctc cag cag gcc cag gag atg cta aag gag gca    1007
Leu Val Asp Ala Lys Leu Gln Gln Ala Gln Glu Met Leu Lys Glu Ala
320                 325                 330                 335

gaa gag cgg cac cag cgg gag aag gat ttt ctc ctg aaa gag gca gta    1055
Glu Glu Arg His Gln Arg Glu Lys Asp Phe Leu Leu Lys Glu Ala Val
                340                 345                 350

gag tcc cag agg atg tgt gag ctg atg aag cag caa gag acc cac ctg    1103
Glu Ser Gln Arg Met Cys Glu Leu Met Lys Gln Gln Glu Thr His Leu
                355                 360                 365

aag caa cag ctt gcc cta tac aca gag aag ttt gag gag ttc cag aac    1151
Lys Gln Gln Leu Ala Leu Tyr Thr Glu Lys Phe Glu Glu Phe Gln Asn
            370                 375                 380

aca ctt tcc aaa agc agc gag gta ttc acc aca ttc aag cag gag atg    1199
Thr Leu Ser Lys Ser Ser Glu Val Phe Thr Thr Phe Lys Gln Glu Met
    385                 390                 395

gaa aag atg act aag aag atc aag aag ctg gag aaa gaa acc acc atg    1247
Glu Lys Met Thr Lys Lys Ile Lys Lys Leu Glu Lys Glu Thr Thr Met
400                 405                 410                 415

tac cgg tcc cgg tgg gag agc agc aac aag gcc ctg ctt gag atg gct    1295
Tyr Arg Ser Arg Trp Glu Ser Ser Asn Lys Ala Leu Leu Glu Met Ala
                420                 425                 430

gag gag aaa aca gtc cgg gat aaa gaa ctg gag ggc ctg cag gta aaa    1343
Glu Glu Lys Thr Val Arg Asp Lys Glu Leu Glu Gly Leu Gln Val Lys
                435                 440                 445

atc caa cgg ctg gag aag ctg tgc cgg gca ctg cag aca gag cgc aat    1391
Ile Gln Arg Leu Glu Lys Leu Cys Arg Ala Leu Gln Thr Glu Arg Asn
            450                 455                 460

gac ctg aac aag agg gta cag gac ctg agt gct ggt ggc cag ggc tcc    1439
Asp Leu Asn Lys Arg Val Gln Asp Leu Ser Ala Gly Gly Gln Gly Ser
    465                 470                 475

ctc act gac agt ggc cct gag agg agg cca gag ggg cct ggg gct caa    1487
Leu Thr Asp Ser Gly Pro Glu Arg Arg Pro Glu Gly Pro Gly Ala Gln
480                 485                 490                 495

gca ccc agc tcc ccc agg gtc aca gaa gcg cct tgc tac cca gga gca    1535
Ala Pro Ser Ser Pro Arg Val Thr Glu Ala Pro Cys Tyr Pro Gly Ala
                500                 505                 510

ccg agc aca gaa gca tca ggc cag act ggg cct caa gag ccc acc tcc    1583
Pro Ser Thr Glu Ala Ser Gly Gln Thr Gly Pro Gln Glu Pro Thr Ser
                515                 520                 525

gcc agg gcc tagagagcct ggtgttgggt catgctggga agggagcggc    1632
Ala Arg Ala
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530

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agcccagcca ggcctggccc ataaaaggct cccatgctga gcagcccatt gctgaagcca   1692
ggatgttctt gacctggctg gcatctggca cttgcaattt tggattttgt gggtcagttt   1752
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tgagcatttc tctgtctgat ttgaggctca gacccctccc tgcccttca  gagctcaaaa   1992
caagtaatac accaaggtct tgactgcatt tgtcttgtga gcagggcttg cttggtcagc   2052
tcaggccctc ctagctgctt ggaggctcct ttgattctct agacctggaa aaggtgtccc   2112
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gagaatgttt ttgcgtggga tgatgtgctg gtcaggagcc ccttgggcat cgcttcccct   2232
gccctttggt agtgccagga ccaggccaat gatgcttctc agtagcctta tcattcacag   2292
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gtgtttttt  ctttatttct ttttcttttt tttttttct  ttttctttt  ttttgcaca   2412
tgacagtgtt tgtattgagg accttccaag gaaaagggat gctgtaccag tggtgcctgg   2472
gtgcctggcc tccagtgtcc cacctccttc accaccccac ttggctcctt tgccatcttg   2532
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aatccataaa atggctgcag acagttgttt ctgtgtcctg ttctaccccc actccagtac   2952
ataactacta tgtactgtgt agagccattc tatatgctga atgttctgct gttgcaaact   3012
tgccagggta ttagccagtg tttgtgccaa gcagtttcg  gggacaacag aatgactcag   3072
accaagatgg ataggatggt tagggctttg cttcttgctg tttttctttg aactagtcat   3132
tgtcctgcag gtcccttcat cttccatacc tagcccactc ttttagccct taccttaaat   3192
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tcttcttgct ccagtaggcc ttttccttac cccagccctt gtgccaggct aagctggtac   3552
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cctcagtttt aggacccaag atctgtgttg gtttcttaga ttgctagctt ttcctccagg   4092
ggaccacagc aggtgaagct caagagcgca tggctctgct aatagtaaat tgttttcagg   4152
gccttgtcca gctgagagct tcatgtccac cagattctga gaggtgtcag cagcactttt   4212
ttttttatt  tgttgtttgt tttccatgag gttatcggac catgggctga gctcaggcac   4272
tttctgtagg agactgttat ttctgtaaag atggttattt aaccctcctc caccccatca   4332
cggtggccct gagggctgac ccggaggcca gtggagctgc ctggtgtcca cgggggaggg   4392
ccaaggcctg ctgagctgat tctccagctg ctgccccagc ctttccgcct tgcacagcac   4452
agaggtggtc accccaggga cagccaggca cctgctcctc ttgcccttcc tgggggaaag   4512
gagctgcctt ctgtccctgt aactgctttc cttatggccc aacccggcca ctcagacttg   4572
tttgaagctg cactggcagc tttttttgtct cctttgggta ttcacaacag ccagggactt   4632
gattttgatg tattttaaac cacattaaat aaagagtctg ttgccttaaa·aaaaaaaaaa   4692
aaaaa                                                               4697
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<210> 18
<211> 60

<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(60)

<400> 18
gtg gac gtg gat gag tac gac gag aac aag ttc gtg gac gag gaa gac   48
Val Asp Val Asp Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp
 1   5   10   15

ggc ggc gac ggc   60
Gly Gly Asp Gly
            20

<210> 19
<211> 15
<212> PRT
<213> Homo sapiens

<400> 19
Glu Glu Glu Glu Asp Asp Asp Glu Asp Glu Asp Glu Glu Asp Asp
 1   5   10   15

<210> 20
<211> 26
<212> PRT
<213> Homo sapiens

<400> 20
Glu Glu Glu Glu Asp Asp Asp Glu Asp Glu Asp Glu Glu Asp Asp Val
 1   5   10   15
Ser Glu Gly Ser Glu Val Pro Glu Ser Asp
            20   25

<210> 21
<211> 11
<212> PRT
<213> Homo sapiens

<400> 21
Val Ser Glu Gly Ser Glu Val Pro Glu Ser Asp
 1   5   10

<210> 22
<211> 10
<212> PRT
<213> Homo sapiens

<400> 22
Glu Asp Asp Asp Pro Asp Gly Phe Leu Gly
 1   5   10

<210> 23
<211> 30

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<212> PRT
<213> Oryctolagus cuniculus

<400> 23
Val Asp Val Asp Glu Tyr Asp Glu Asn Lys Phe Val Asp Glu Glu Asp
 1               5                   10                  15
Gly Gly Asp Gly Gln Ala Gly Pro Asp Glu Gly Glu Val Asp
            20                  25                  30

<210> 24
<211> 6
<212> PRT
<213> Oryctolagus cuniculus

<400> 24
Asp Glu Gly Glu Val Asp
 1               5

<210> 25
<211> 16
<212> PRT
<213> Oryctolagus cuniculus

<400> 25
Glu Glu Glu Glu Glu Glu Glu Glu Asp Asp Glu Asp Asp Asp Asp Asp
 1               5                   10                  15

<210> 26
<211> 28
<212> PRT
<213> Oryctolagus cuniculus

<400> 26
Glu Glu Glu Glu Glu Glu Glu Glu Asp Asp Glu Asp Asp Asp Asp Asp
 1               5                   10                  15
Val Val Ser Glu Gly Ser Glu Val Pro Glu Ser Asp
            20                  25

<210> 27
<211> 12
<212> PRT
<213> Oryctolagus cuniculus

<400> 27
Val Val Ser Glu Gly Ser Glu Val Pro Glu Ser Asp
 1               5                   10

<210> 28
<211> 10
<212> PRT
<213> Oryctolagus cuniculus

<400> 28
Pro Pro Gly Lys Pro Ala Leu Pro Gly Ala
 1               5                   10

<210> 29
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<211> 15
<212> PRT
<213> Oryctolagus cuniculus

<400> 29
Glu Asp Gly Val Gln Gly Glu Pro Pro Glu Pro Glu Asp Ala Glu
 1               5                  10                  15

<210> 30
<211> 45
<212> DNA
<213> Homo sapiens

<400> 30
gaagaggaag aagatgatga tgaagatgaa gatgaagaag atgat                    45

<210> 31
<211> 78
<212> DNA
<213> Homo sapiens

<400> 31
gaagaggaag aagatgatga tgaagatgaa gatgaagaag atgatgtgtc agagggctct    60
gaagtgcccg agagtgac                                                  78

<210> 32
<211> 33
<212> DNA
<213> Homo sapiens

<400> 32
gtgtcagagg gctctgaagt gcccgagagt gac                                 33

<210> 33
<211> 30
<212> DNA
<213> Homo sapiens

<400> 33
gaggatgatg accccgatgg cttcttaggc                                     30

<210> 34
<211> 90
<212> DNA
<213> Homo sapiens

<400> 34
gtggacgtgg atgaatatga cgagaacaag ttcgtggacg aagaagatgg gggcgacggc    60
caggccgggc ccgacgaggg cgaggtggac                                     90

<210> 35
<211> 18
<212> DNA
<213> Homo sapiens

<400> 35
gacgagggcg aggtggac                                                  18
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<210> 36
<211> 48
<212> DNA
<213> Homo sapiens

<400> 36
gaggaggagg aggaggagga ggaagacgac gaggacgacg acgacgac   48

<210> 37
<211> 84
<212> DNA
<213> Homo sapiens

<400> 37
gaggaggagg aggaggagga ggaagacgac gaggacgacg acgacgacgt cgtgtccgag   60
ggctcggagg tgcccgagag cgat   84

<210> 38
<211> 36
<212> DNA
<213> Homo sapiens

<400> 38
gtcgtgtccg agggctcgga ggtgcccgag agcgat   36

<210> 39
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<212> DNA
<213> Homo sapiens

<400> 39
cccccgggga agccagccct cccaggagcc   30

<210> 40
<211> 45
<212> DNA
<213> Homo sapiens

<400> 40
gaggatgggg tccagggtga gccccctgaa cctgaagatg cagag   45

<210> 41
<211> 7
<212> PRT
<213> Homo sapiens

<400> 41
Arg Asp Val Ser Glu Glu Leu
 1   5

<210> 42
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<212> DNA
<213> Homo sapiens

<400> 42

cgtgatgtct ctgaggagct g

<210> 43
<211> 538
<212> PRT
<213> Homo sapiens

<400> 43
Met Ala Gly Pro Pro Ala Leu Pro Pro Pro Glu Thr Ala Ala Ala Ala
1   5   10   15
Thr Thr Ala Ala Ala Ala Ser Ser Ser Ala Ala Ser Pro His Tyr Gln
            20   25   30
Glu Trp Ile Leu Asp Thr Ile Asp Ser Leu Arg Ser Arg Lys Ala Arg
        35   40   45
Pro Asp Leu Glu Arg Ile Cys Arg Met Val Arg Arg Arg His Gly Pro
    50   55   60
Glu Pro Glu Arg Thr Arg Ala Glu Leu Glu Lys Leu Ile Gln Gln Arg
65   70   75   80
Ala Val Leu Arg Val Ser Tyr Lys Gly Ser Ile Ser Tyr Arg Asn Ala
            85   90   95
Ala Arg Val Gln Pro Pro Arg Arg Gly Ala Thr Pro Pro Ala Pro Pro
            100   105   110
Arg Ala Pro Arg Gly Ala Pro Ala Ala Ala Ala Ala Ala Ala Pro Pro
        115   120   125
Pro Thr Pro Ala Pro Pro Pro Pro Pro Ala Pro Val Ala Ala Ala Ala
    130   135   140
Pro Ala Arg Ala Pro Arg Ala Ala Ala Ala Ala Ala Thr Ala Pro Pro
145   150   155   160
Ser Pro Gly Pro Ala Gln Pro Gly Pro Arg Ala Gln Arg Ala Ala Pro
            165   170   175
Leu Ala Ala Pro Pro Pro Ala Pro Ala Ala Pro Pro Ala Val Ala Pro
            180   185   190
Pro Ala Gly Pro Arg Arg Ala Pro Pro Ala Val Ala Ala Arg Glu
        195   200   205
Pro Pro Leu Pro Pro Pro Pro Gln Pro Pro Ala Pro Pro Gln Gln Gln
    210   215   220
Gln Pro Pro Pro Pro Gln Pro Gln Pro Pro Pro Glu Gly Gly Ala Val
225   230   235   240
Arg Ala Gly Gly Ala Ala Arg Pro Val Ser Leu Arg Glu Val Val Arg
            245   250   255
Tyr Leu Gly Gly Ser Gly Gly Ala Gly Gly Arg Leu Thr Arg Gly Arg
            260   265   270
Val Gln Gly Leu Leu Glu Glu Glu Ala Ala Ala Arg Gly Arg Leu Glu
            275   280   285
Arg Thr Arg Leu Gly Ala Leu Ala Leu Pro Arg Gly Asp Arg Pro Gly
        290   295   300
Arg Ala Pro Pro Ala Ala Ser Ala Arg Pro Ser Arg Ser Lys Arg Gly
305   310   315   320
Gly Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Asp Asp Asp Glu
            325   330   335
Asp Glu Asp Glu Glu Asp Asp Val Ser Glu Gly Ser Glu Val Pro Glu
            340   345   350
Ser Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Glu Arg
        355   360   365
Gly Pro Gln Ser Ala Lys Glu Arg Val Lys Glu Trp Thr Pro Cys Gly
    370   375   380
Pro His Gln Gly Gln Asp Glu Gly Arg Gly Pro Ala Pro Gly Ser Gly

```
385                     390                     395                     400
Thr Arg Gln Val Phe Ser Met Ala Ala Met Asn Lys Glu Gly Gly Thr
            405                     410                     415
Ala Ser Val Ala Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro
            420                     425                     430
Pro Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys
            435                     440                     445
Pro Pro Gly Arg Lys Glu Lys Pro Ser Asp Pro Val Glu Trp Thr Val
    450                     455                     460
Met Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala
465                     470                     475                     480
Thr Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met
                485                     490                     495
Gln Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala
            500                     505                     510
Leu Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly His Phe
            515                     520                     525
Glu Asp Asp Asp Pro Asp Gly Phe Leu Gly
            530                     535
```

<210> 44
<211> 546
<212> PRT
<213> Homo sapiens

<400> 44
```
Met Lys Asn Gln Asp Lys Lys Asn Gly Ala Ala Lys Gln Ser Asn Pro
  1               5                  10                  15
Lys Ser Ser Pro Gly Gln Pro Glu Ala Gly Pro Glu Gly Ala Gln Glu
            20                  25                  30
Arg Pro Ser Gln Ala Ala Pro Ala Val Glu Ala Glu Gly Pro Gly Ser
            35                  40                  45
Ser Gln Ala Pro Arg Lys Pro Glu Gly Ala Gln Ala Arg Thr Ala Gln
    50                  55                  60
Ser Gly Ala Leu Arg Asp Val Ser Glu Glu Leu Ser Arg Gln Leu Glu
65                  70                  75                  80
Asp Ile Leu Ser Thr Tyr Cys Val Asp Asn Asn Gln Gly Gly Pro Gly
                85                  90                  95
Glu Asp Gly Ala Gln Gly Glu Pro Ala Glu Pro Glu Asp Ala Glu Lys
            100                 105                 110
Ser Arg Thr Tyr Val Ala Arg Asn Gly Glu Pro Glu Pro Thr Pro Val
            115                 120                 125
Val Asn Gly Glu Lys Glu Pro Ser Lys Gly Asp Pro Asn Thr Glu Glu
    130                 135                 140
Ile Arg Gln Ser Asp Glu Val Gly Asp Arg Asp His Arg Arg Pro Gln
145                 150                 155                 160
Glu Lys Lys Lys Ala Lys Gly Leu Gly Lys Glu Ile Thr Leu Leu Met
                165                 170                 175
Gln Thr Leu Asn Thr Leu Ser Thr Pro Glu Glu Lys Leu Ala Ala Leu
                180                 185                 190
Cys Lys Lys Tyr Ala Glu Leu Leu Glu Glu His Arg Asn Ser Gln Lys
                195                 200                 205
Gln Met Lys Leu Leu Gln Lys Lys Gln Ser Gln Leu Val Gln Glu Lys
    210                 215                 220
Asp His Leu Arg Gly Glu His Ser Lys Ala Val Leu Ala Arg Ser Lys
225                 230                 235                 240
Leu Glu Ser Leu Cys Arg Glu Leu Gln Arg His Asn Arg Ser Leu Lys
```

```
                      245                    250                    255
Glu Glu Gly Val Gln Arg Ala Arg Glu Glu Glu Lys Arg Lys Glu
              260                    265                    270
Val Thr Ser His Phe Gln Val Thr Leu Asn Asp Ile Gln Leu Gln Met
              275                    280                    285
Glu Gln His Asn Glu Arg Asn Ser Lys Leu Arg Gln Glu Asn Met Glu
          290                    295                    300
Leu Ala Glu Arg Leu Lys Lys Leu Ile Glu Gln Tyr Glu Leu Arg Glu
305                    310                    315                    320
Glu His Ile Asp Lys Val Phe Lys His Lys Asp Leu Gln Gln Gln Leu
                  325                    330                    335
Val Asp Ala Lys Leu Gln Gln Ala Gln Glu Met Leu Lys Glu Ala Glu
              340                    345                    350
Glu Arg His Gln Arg Glu Lys Asp Phe Leu Leu Lys Glu Ala Val Glu
              355                    360                    365
Ser Gln Arg Met Cys Glu Leu Met Lys Gln Gln Glu Thr His Leu Lys
      370                    375                    380
Gln Gln Leu Ala Leu Tyr Thr Glu Lys Phe Glu Glu Phe Gln Asn Thr
385                    390                    395                    400
Leu Ser Lys Ser Ser Glu Val Phe Thr Thr Phe Lys Gln Glu Met Glu
                  405                    410                    415
Lys Met Thr Lys Lys Ile Lys Lys Leu Glu Lys Glu Thr Thr Met Tyr
              420                    425                    430
Arg Ser Arg Trp Glu Ser Ser Asn Lys Ala Leu Leu Glu Met Ala Glu
              435                    440                    445
Glu Lys Thr Val Arg Asp Lys Glu Leu Glu Gly Leu Gln Val Lys Ile
          450                    455                    460
Gln Arg Leu Glu Lys Leu Cys Arg Ala Leu Gln Thr Glu Arg Asn Asp
465                    470                    475                    480
Leu Asn Lys Arg Val Gln Asp Leu Ser Ala Gly Gly Gln Gly Ser Leu
                  485                    490                    495
Thr Asp Ser Gly Pro Glu Arg Arg Pro Glu Gly Pro Gly Ala Gln Ala
              500                    505                    510
Pro Ser Ser Pro Arg Val Thr Glu Ala Pro Cys Tyr Pro Gly Ala Pro
          515                    520                    525
Ser Thr Glu Ala Ser Gly Gln Thr Gly Pro Gln Glu Pro Thr Ser Ala
          530                    535                    540
Arg Ala
545
```

```
<210> 45
<211> 1614
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(1614)

<400> 45
atg gcg ggg ccc ccg gcc cta ccc ccg ccg gag acg gcg gcg gcc gcc      48
Met Ala Gly Pro Pro Ala Leu Pro Pro Pro Glu Thr Ala Ala Ala Ala
1               5                   10                  15


acc acg gcg gcc gcc gcc tcg tcg tcc gcc gct tcc ccg cac tac caa      96
Thr Thr Ala Ala Ala Ala Ser Ser Ser Ala Ala Ser Pro His Tyr Gln
            20                  25                  30
```

```
gag tgg atc ctg gac acc atc gac tcg ctg cgc tcg cgc aag gcg cgg        144
Glu Trp Ile Leu Asp Thr Ile Asp Ser Leu Arg Ser Arg Lys Ala Arg
        35                  40                  45

ccg gac ctg gag cgc atc tgc cgg atg gtg cgg cgg cgg cac ggc ccg        192
Pro Asp Leu Glu Arg Ile Cys Arg Met Val Arg Arg Arg His Gly Pro
    50                  55                  60

gag ccg gag cgc acg cgc gcc gag ctc gag aaa ctg atc cag cag cgc        240
Glu Pro Glu Arg Thr Arg Ala Glu Leu Glu Lys Leu Ile Gln Gln Arg
65                  70                  75                  80

gcc gtg ctc cgg gtc agc tac aag ggg agc atc tcg tac cgc aac gcg        288
Ala Val Leu Arg Val Ser Tyr Lys Gly Ser Ile Ser Tyr Arg Asn Ala
                85                  90                  95

gcg cgc gtc cag ccg ccc cgg cgc gga gcc acc ccg ccg gcc ccg ccg        336
Ala Arg Val Gln Pro Pro Arg Arg Gly Ala Thr Pro Pro Ala Pro Pro
                100                 105                 110

cgc gcc ccc cgc ggg gcc ccc gcc gcc gcc gcc gcc gcc gcg ccg ccg        384
Arg Ala Pro Arg Gly Ala Pro Ala Ala Ala Ala Ala Ala Ala Pro Pro
        115                 120                 125

ccc acg ccc gcc ccg ccg cca ccg ccc gcg ccc gtc gcc gcc gcc gcc        432
Pro Thr Pro Ala Pro Pro Pro Pro Pro Ala Pro Val Ala Ala Ala Ala
    130                 135                 140

ccg gcc cgg gcg ccc cgc gcg gcc gcc gcc gcc gcc aca gcg ccc ccc        480
Pro Ala Arg Ala Pro Arg Ala Ala Ala Ala Ala Ala Thr Ala Pro Pro
145                 150                 155                 160

tcg cct ggc ccc gcg cag ccg ggc ccc cgc gcg cag cgg gcc gcg ccc        528
Ser Pro Gly Pro Ala Gln Pro Gly Pro Arg Ala Gln Arg Ala Ala Pro
                165                 170                 175

ctg gcc gcg ccg ccg ccc gcg cca gcc gct ccc ccg gcg gtg gcg ccc        576
Leu Ala Ala Pro Pro Pro Ala Pro Ala Ala Pro Pro Ala Val Ala Pro
                180                 185                 190

ccg gcc ggc ccg cgc cgc gcc ccc ccg ccc gcc gtc gcc gcc cgg gag        624
Pro Ala Gly Pro Arg Arg Ala Pro Pro Pro Ala Val Ala Ala Arg Glu
        195                 200                 205

ccg ccg ctg ccg ccg ccg cca cag ccg ccg gcg ccg cca cag cag cag        672
Pro Pro Leu Pro Pro Pro Pro Gln Pro Pro Ala Pro Pro Gln Gln Gln
        210                 215                 220

cag ccg ccg ccg ccg cag cca cag ccg ccg ccg gag ggg ggc gcg gtg        720
Gln Pro Pro Pro Pro Gln Pro Gln Pro Pro Pro Glu Gly Gly Ala Val
225                 230                 235                 240

cgg gcc ggc ggc gcg gcg cgg ccc gtg agc ctg cgg gaa gtc gtg cgc        768
Arg Ala Gly Gly Ala Ala Arg Pro Val Ser Leu Arg Glu Val Val Arg
                245                 250                 255
```

```
tac ctc ggg ggc agc ggc ggc gcc ggc ggt cgc cta acc cgc ggc cgc      816
Tyr Leu Gly Gly Ser Gly Gly Ala Gly Gly Arg Leu Thr Arg Gly Arg
            260             265                 270

gtg cag ggg ctg ctg gag gag gag gcg gcg gct cga ggc cgt ctg gag      864
Val Gln Gly Leu Leu Glu Glu Glu Ala Ala Ala Arg Gly Arg Leu Glu
            275             280                 285

cgc acc cgt ctc gga gcg ctt gcg ctg ccc cgc ggg gac agg ccc gga      912
Arg Thr Arg Leu Gly Ala Leu Ala Leu Pro Arg Gly Asp Arg Pro Gly
            290             295                 300

cgg gcg ccg ccg gcc gcc agc gcc cgc ccg tct cgc agc aag aga ggt      960
Arg Ala Pro Pro Ala Ala Ser Ala Arg Pro Ser Arg Ser Lys Arg Gly
305             310             315                 320

gga gaa gag cga gta ctt gag aaa gaa gag gaa gaa gat gat gat gaa     1008
Gly Glu Glu Arg Val Leu Glu Lys Glu Glu Glu Glu Asp Asp Asp Glu
            325             330                 335

gat gaa gat gaa gaa gat gat gtg tca gag ggc tct gaa gtg ccc gag     1056
Asp Glu Asp Glu Glu Asp Asp Val Ser Glu Gly Ser Glu Val Pro Glu
            340             345                 350

agt gac cgt cct gca ggt gcc cag cac cac cag ctt aac ggc gag cgg     1104
Ser Asp Arg Pro Ala Gly Ala Gln His His Gln Leu Asn Gly Glu Arg
            355             360                 365

gga cct cag agt gcc aag gag agg gtc aag gag tgg acc ccc tgc gga     1152
Gly Pro Gln Ser Ala Lys Glu Arg Val Lys Glu Trp Thr Pro Cys Gly
            370             375                 380

ccg cac cag ggc cag gat gaa ggg cgg ggg cca gcc ccg ggc agc ggc     1200
Pro His Gln Gly Gln Asp Glu Gly Arg Gly Pro Ala Pro Gly Ser Gly
385             390             395                 400

acc cgc cag gtg ttc tcc atg gca gcc atg aac aag gaa ggg gga aca     1248
Thr Arg Gln Val Phe Ser Met Ala Ala Met Asn Lys Glu Gly Gly Thr
            405             410                 415

gct tct gtt gcc acc ggg cca gac tcc ccg tcc ccc gtg cct ttg ccc     1296
Ala Ser Val Ala Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro
            420             425                 430

cca ggc aaa cca gcc cta cct ggg gcc gac ggg acc ccc ttt ggc tgt     1344
Pro Gly Lys Pro Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys
            435             440                 445

ccg ccc ggg cgc aaa gag aag cca tct gat ccc gtc gag tgg acc gtg     1392
Pro Pro Gly Arg Lys Glu Lys Pro Ser Asp Pro Val Glu Trp Thr Val
450                 455             460

atg gat gtc gtc gaa tat ttt act gag gct gga ttc ccg gag cag gcg     1440
Met Asp Val Val Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala
465                 470             475                 480

aca gct ttc caa gag cag gaa att gat ggc aaa tct ttg ctg ctc atg     1488
```

```
    Thr Ala Phe Gln Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met
                    485                 490                 495


    cag cgc aca gat gtg ctc acc ggc ctg tcc atc cgc ctc ggg cca gcc      1536
    Gln Arg Thr Asp Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala
                500                 505                 510


    ctg aaa atc tac gag cac cac atc aag gtg ctt cag caa ggc cac ttt      1584
    Leu Lys Ile Tyr Glu His His Ile Lys Val Leu Gln Gln Gly His Phe
                515                 520                 525


    gag gat gat gac ccc gat ggc ttc tta ggc                              1614
    Glu Asp Asp Asp Pro Asp Gly Phe Leu Gly
        530                 535
```

```
<210> 46
<211> 1638
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(1638)

<400> 46
atg aag aac caa gac aaa aag aac ggg gct gcc aaa caa tcc aat cca      48
Met Lys Asn Gln Asp Lys Lys Asn Gly Ala Ala Lys Gln Ser Asn Pro
 1               5                   10                  15


aaa agc agc cca gga caa ccg gaa gca gga ccc gag gga gcc cag gag      96
Lys Ser Ser Pro Gly Gln Pro Glu Ala Gly Pro Glu Gly Ala Gln Glu
                20                  25                  30


cgg ccc agc cag gcg gct cct gca gta gaa gca gaa ggt ccc ggc agc      144
Arg Pro Ser Gln Ala Ala Pro Ala Val Glu Ala Glu Gly Pro Gly Ser
            35                  40                  45


agc cag gct cct cgg aag ccg gag ggt gct caa gcc aga acg gct cag      192
Ser Gln Ala Pro Arg Lys Pro Glu Gly Ala Gln Ala Arg Thr Ala Gln
        50                  55                  60


tct ggg gcc ctt cgt gat gtc tct gag gag ctg agc cgc caa ctg gaa      240
Ser Gly Ala Leu Arg Asp Val Ser Glu Glu Leu Ser Arg Gln Leu Glu
65                  70                  75                  80


gac ata ctg agc aca tac tgt gtg gac aat aac cag ggg ggc ccc ggc      288
Asp Ile Leu Ser Thr Tyr Cys Val Asp Asn Asn Gln Gly Gly Pro Gly
                85                  90                  95


gag gat ggg gca cag ggt gag ccg gct gaa ccc gaa gat gca gag aag      336
Glu Asp Gly Ala Gln Gly Glu Pro Ala Glu Pro Glu Asp Ala Glu Lys
            100                 105                 110


tcc cgg acc tat gtg gca agg aat ggg gag cct gaa cca act cca gta      384
Ser Arg Thr Tyr Val Ala Arg Asn Gly Glu Pro Glu Pro Thr Pro Val
        115                 120                 125
```

```
gtc aat gga gag aag gaa ccc tcc aag ggg gat cca aac aca gaa gag          432
Val Asn Gly Glu Lys Glu Pro Ser Lys Gly Asp Pro Asn Thr Glu Glu
        130                 135                 140

atc cgg cag agt gac gag gtc gga gac cga gac cat cga agg cca cag          480
Ile Arg Gln Ser Asp Glu Val Gly Asp Arg Asp His Arg Arg Pro Gln
145                 150                 155                 160

gag aag aaa aaa gcc aag ggt ttg ggt aag gag atc acg ttg ctg atg         528
Glu Lys Lys Lys Ala Lys Gly Leu Gly Lys Glu Ile Thr Leu Leu Met
                165                 170                 175

cag aca ttg aat act ctg agt acc cca gag gag aag ctg gct gct ctg         576
Gln Thr Leu Asn Thr Leu Ser Thr Pro Glu Glu Lys Leu Ala Ala Leu
                180                 185                 190

tgc aag aag tat gct gaa ctg ctg gag gag cac cgg aat tca cag aag         624
Cys Lys Lys Tyr Ala Glu Leu Leu Glu Glu His Arg Asn Ser Gln Lys
                195                 200                 205

cag atg aag ctc cta cag aaa aag cag agc cag ctg gtg caa gag aag         672
Gln Met Lys Leu Leu Gln Lys Lys Gln Ser Gln Leu Val Gln Glu Lys
        210                 215                 220

gac cac ctg cgc ggt gag cac agc aag gcc gtc ctg gcc cgc agc aag         720
Asp His Leu Arg Gly Glu His Ser Lys Ala Val Leu Ala Arg Ser Lys
225                 230                 235                 240

ctt gag agc cta tgc cgt gag ctg cag cgg cac aac cgc tcc ctc aag         768
Leu Glu Ser Leu Cys Arg Glu Leu Gln Arg His Asn Arg Ser Leu Lys
                245                 250                 255

gaa gaa ggt gtg cag cgg gcc cgg gag gag gag gag aag cgc aag gag         816
Glu Glu Gly Val Gln Arg Ala Arg Glu Glu Glu Glu Lys Arg Lys Glu
                260                 265                 270

gtg acc tcg cac ttc cag gtg aca ctg aat gac att cag ctg cag atg         864
Val Thr Ser His Phe Gln Val Thr Leu Asn Asp Ile Gln Leu Gln Met
                275                 280                 285

gaa cag cac aat gag cgc aac tcc aag ctg cgc caa gag aac atg gag         912
Glu Gln His Asn Glu Arg Asn Ser Lys Leu Arg Gln Glu Asn Met Glu
        290                 295                 300

ctg gct gag agg ctc aag aag ctg att gag cag tat gag ctg cgc gag         960
Leu Ala Glu Arg Leu Lys Lys Leu Ile Glu Gln Tyr Glu Leu Arg Glu
305                 310                 315                 320

gag cat atc gac aaa gtc ttc aaa cac aag gac cta caa cag cag ctg        1008
Glu His Ile Asp Lys Val Phe Lys His Lys Asp Leu Gln Gln Gln Leu
                325                 330                 335

gtg gat gcc aag ctc cag cag gcc cag gag atg cta aag gag gca gaa        1056
Val Asp Ala Lys Leu Gln Gln Ala Gln Glu Met Leu Lys Glu Ala Glu
                340                 345                 350
```

```
gag cgg cac cag cgg gag aag gat ttt ctc ctg aaa gag gca gta gag      1104
Glu Arg His Gln Arg Glu Lys Asp Phe Leu Leu Lys Glu Ala Val Glu
        355             360             365

tcc cag agg atg tgt gag ctg atg aag cag caa gag acc cac ctg aag      1152
Ser Gln Arg Met Cys Glu Leu Met Lys Gln Gln Glu Thr His Leu Lys
        370             375             380

caa cag ctt gcc cta tac aca gag aag ttt gag gag ttc cag aac aca      1200
Gln Gln Leu Ala Leu Tyr Thr Glu Lys Phe Glu Glu Phe Gln Asn Thr
385             390             395             400

ctt tcc aaa agc agc gag gta ttc acc aca ttc aag cag gag atg gaa      1248
Leu Ser Lys Ser Ser Glu Val Phe Thr Thr Phe Lys Gln Glu Met Glu
            405             410             415

aag atg act aag aag atc aag aag ctg gag aaa gaa acc acc atg tac      1296
Lys Met Thr Lys Lys Ile Lys Lys Leu Glu Lys Glu Thr Thr Met Tyr
            420             425             430

cgg tcc cgg tgg gag agc agc aac aag gcc ctg ctt gag atg gct gag      1344
Arg Ser Arg Trp Glu Ser Ser Asn Lys Ala Leu Leu Glu Met Ala Glu
        435             440             445

gag aaa aca gtc cgg gat aaa gaa ctg gag ggc ctg cag gta aaa atc      1392
Glu Lys Thr Val Arg Asp Lys Glu Leu Glu Gly Leu Gln Val Lys Ile
        450             455             460

caa cgg ctg gag aag ctg tgc cgg gca ctg cag aca gag cgc aat gac      1440
Gln Arg Leu Glu Lys Leu Cys Arg Ala Leu Gln Thr Glu Arg Asn Asp
465             470             475             480

ctg aac aag agg gta cag gac ctg agt gct ggt ggc cag ggc tcc ctc      1488
Leu Asn Lys Arg Val Gln Asp Leu Ser Ala Gly Gly Gln Gly Ser Leu
            485             490             495

act gac agt ggc cct gag agg agg cca gag ggg cct ggg gct caa gca      1536
Thr Asp Ser Gly Pro Glu Arg Arg Pro Glu Gly Pro Gly Ala Gln Ala
            500             505             510

ccc agc tcc ccc agg gtc aca gaa gcg cct tgc tac cca gga gca ccg      1584
Pro Ser Ser Pro Arg Val Thr Glu Ala Pro Cys Tyr Pro Gly Ala Pro
            515             520             525

agc aca gaa gca tca ggc cag act ggg cct caa gag ccc acc tcc gcc      1632
Ser Thr Glu Ala Ser Gly Gln Thr Gly Pro Gln Glu Pro Thr Ser Ala
            530             535             540

agg gcc                                                              1638
Arg Ala
545
```

<210> 47
<211> 550
<212> PRT
<213> Oryctolagus cuniculus

```
<400> 47
Met Ala Gly Pro Pro Ala Leu Pro Pro Pro Glu Thr Ala Ala Ala Ala
1               5                   10                  15
Thr Thr Ala Ala Ala Ala Ala Ser Ser Ser Ala Ala Ser Pro His Tyr
            20                  25                  30
Gln Glu Trp Ile Leu Asp Thr Ile Asp Ser Leu Arg Ser Arg Lys Ala
        35                  40                  45
Arg Pro Asp Leu Glu Arg Ile Cys Arg Met Val Arg Arg Arg His Gly
    50                  55                  60
Pro Glu Pro Glu Arg Thr Arg Ala Glu Leu Glu Lys Leu Ile Gln Gln
65                  70                  75                  80
Arg Ala Val Leu Arg Val Ser Tyr Lys Gly Ser Ile Ser Tyr Arg Asn
            85                  90                  95
Ala Ala Arg Val Gln Pro Pro Arg Arg Gly Ala Thr Pro Pro Ala Pro
            100                 105                 110
Pro Arg Ala Pro Arg Gly Gly Pro Ala Ala Ala Ala Ala Pro Pro Pro
        115                 120                 125
Thr Pro Ala Pro Pro Pro Pro Pro Ala Pro Val Ala Ala Ala Ala Ala
    130                 135                 140
Pro Ala Arg Ala Pro Arg Ala Ala Ala Ala Ala Ala Ala Ala Thr Ala
145                 150                 155                 160
Pro Pro Ser Pro Gly Pro Ala Gln Pro Gly Pro Arg Ala Gln Arg Ala
            165                 170                 175
Ala Pro Leu Ala Ala Pro Pro Pro Ala Pro Ala Ala Pro Pro Ala Ala
            180                 185                 190
Ala Pro Pro Ala Gly Pro Arg Arg Ala Pro Pro Ala Ala Ala Val
        195                 200                 205
Ala Ala Arg Glu Ser Pro Leu Pro Pro Pro Pro Gln Pro Pro Ala Pro
    210                 215                 220
Pro Gln Gln Gln Gln Gln Pro Pro Pro Pro Pro Pro Pro Gln Gln Pro
225                 230                 235                 240
Gln Pro Pro Pro Glu Gly Gly Ala Ala Arg Ala Gly Gly Pro Ala Arg
            245                 250                 255
Pro Val Ser Leu Arg Glu Val Val Arg Tyr Leu Gly Gly Ser Ser Gly
            260                 265                 270
Ala Gly Gly Arg Leu Thr Arg Gly Arg Val Gln Gly Leu Leu Glu Glu
        275                 280                 285
Glu Ala Ala Ala Arg Gly Arg Leu Glu Arg Thr Arg Leu Gly Ala Leu
    290                 295                 300
Ala Leu Pro Arg Gly Asp Arg Pro Gly Arg Ala Pro Pro Ala Ala Ser
305                 310                 315                 320
Ala Arg Ala Ala Arg Asn Lys Arg Ala Gly Glu Glu Arg Val Leu Glu
            325                 330                 335
Lys Glu Glu Glu Glu Glu Glu Glu Asp Asp Glu Asp Asp Asp Asp
            340                 345                 350
Asp Val Val Ser Glu Gly Ser Glu Val Pro Glu Ser Asp Arg Pro Ala
            355                 360                 365
Gly Ala Gln His His Gln Leu Asn Gly Gly Glu Arg Gly Pro Gln Thr
    370                 375                 380
Ala Lys Glu Arg Ala Lys Glu Trp Ser Leu Cys Gly Pro His Pro Gly
385                 390                 395                 400
Gln Glu Glu Gly Arg Gly Pro Ala Ala Gly Ser Gly Thr Arg Gln Val
            405                 410                 415
Phe Ser Met Ala Ala Leu Ser Lys Glu Gly Gly Ser Ala Ser Ser Thr
            420                 425                 430
Thr Gly Pro Asp Ser Pro Ser Pro Val Pro Leu Pro Pro Gly Lys Pro
```

```
              435                    440                    445
Ala Leu Pro Gly Ala Asp Gly Thr Pro Phe Gly Cys Pro Ala Gly Arg
        450                    455                    460
Lys Glu Lys Pro Ala Asp Pro Val Glu Trp Thr Val Met Asp Val Val
465                    470                    475                    480
Glu Tyr Phe Thr Glu Ala Gly Phe Pro Glu Gln Ala Thr Ala Phe Gln
                485                    490                    495
Glu Gln Glu Ile Asp Gly Lys Ser Leu Leu Leu Met Gln Arg Thr Asp
            500                    505                    510
Val Leu Thr Gly Leu Ser Ile Arg Leu Gly Pro Ala Leu Lys Ile Tyr
        515                    520                    525
Glu His His Ile Lys Val Leu Gln Gln Gly His Phe Glu Asp Asp Asp
    530                    535                    540
Pro Glu Gly Phe Leu Gly
545                550
```

```
<210> 48
<211> 2561
<212> DNA
<213> Oryctolagus cuniculus

<220>
<221> CDS
<222> (246)...(1895)

<400> 48
ggtctgtgtg tgcgtgcgtg cgagtgagtg agtgtgtgca tatttttttt tctctttct      60
ttctctctct tttttttttt tttgcaaaga aacagcagcg ccgccgccgc tccgccgagg     120
cgctgcgccc cccggggggg ggaggcggag gaggcgggca gcggcggagg gaggggagcc     180
ggggagggg gcgccgcgct gggagggagg cagcgcgcac ggtgcagccg ggccgggcgg     240
gaggc atg gcg ggg ccc ccg gcc cta ccc ccg ccg gag acg gcg gcg gcc     290
      Met Ala Gly Pro Pro Ala Leu Pro Pro Pro Glu Thr Ala Ala Ala
      1               5                   10                  15

gcc acc acg gcc gcg gcc gcc gcc tcg tcg tcc gcc gct tcc ccg cac     338
Ala Thr Thr Ala Ala Ala Ala Ala Ser Ser Ser Ala Ala Ser Pro His
                20                  25                  30

tac caa gag tgg att ctg gac acc atc gac tcg ctg cgc tcg cgc aag     386
Tyr Gln Glu Trp Ile Leu Asp Thr Ile Asp Ser Leu Arg Ser Arg Lys
            35                  40                  45

gcg cgg ccg gac ctg gag cgc atc tgc cgg atg gtg cgg cgg cgg cac     434
Ala Arg Pro Asp Leu Glu Arg Ile Cys Arg Met Val Arg Arg Arg His
        50                  55                  60

ggc ccg gag ccg gag cgc acg cgc gcc gag ctc gag aaa ctg atc cag     482
Gly Pro Glu Pro Glu Arg Thr Arg Ala Glu Leu Glu Lys Leu Ile Gln
65                  70                  75

cag cgc gcc gtg ctc cgg gtc agc tac aag ggg agc atc tcg tac cgc     530
Gln Arg Ala Val Leu Arg Val Ser Tyr Lys Gly Ser Ile Ser Tyr Arg
80                  85                  90                  95

aac gcg gcg cgc gtc cag ccg ccc cgg cgc gga gcc acc ccg ccg gcc     578
Asn Ala Ala Arg Val Gln Pro Pro Arg Arg Gly Ala Thr Pro Pro Ala
                100                 105                 110
```

```
ccg ccg cgc gcc ccc cgc ggg ggc ccc gcc gcc gcc gcc gcg ccg ccg          626
Pro Pro Arg Ala Pro Arg Gly Gly Pro Ala Ala Ala Ala Ala Pro Pro
            115             120             125

ccc acg ccc gcc ccg ccg ccg ccg ccc gcg ccc gtc gcc gcc gcc gcc          674
Pro Thr Pro Ala Pro Pro Pro Pro Pro Ala Pro Val Ala Ala Ala Ala
            130             135             140

gcc ccg gcc cgg gcg ccc cgc gcg gcc gcc gcc gcc gct gcc gcc aca          722
Ala Pro Ala Arg Ala Pro Arg Ala Ala Ala Ala Ala Ala Ala Ala Thr
            145             150             155

gcg ccc ccc tcg ccc ggc ccc gcg cag ccg ggc ccc cgc gcg cag cgg          770
Ala Pro Pro Ser Pro Gly Pro Ala Gln Pro Gly Pro Arg Ala Gln Arg
160             165             170             175

gcc gcg ccc ctg gcc gcg ccg ccg ccc gcg ccc gcc gct ccc ccg gcg          818
Ala Ala Pro Leu Ala Ala Pro Pro Pro Ala Pro Ala Ala Pro Pro Ala
            180             185             190

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